

254051

JPRS-CAG-86-028

24 JULY 1986

China Report

AGRICULTURE

1983 AGRICULTURAL YEARBOOK

DISTRIBUTION STATEMENT A
Approved for Public Release
Distribution Unlimited

20000128 086

DTIC QUALITY INSPECTED 2

FBIS

FOREIGN BROADCAST INFORMATION SERVICE

Reproduced From
Best Available Copy

REPRODUCED BY
**NATIONAL TECHNICAL
INFORMATION SERVICE**
U.S. DEPARTMENT OF COMMERCE
SPRINGFIELD, VA. 22161

3
240
A11

PAGES 1 + 2
ARE
MISSING
IN
ORIGINAL
DOCUMENT

NOTE

JPRS publications contain information primarily from foreign newspapers, periodicals and books, but also from news agency transmissions and broadcasts. Materials from foreign-language sources are translated; those from English-language sources are transcribed or reprinted, with the original phrasing and other characteristics retained.

Headlines, editorial reports, and material enclosed in brackets [] are supplied by JPRS. Processing indicators such as [Text] or [Excerpt] in the first line of each item, or following the last line of a brief, indicate how the original information was processed. Where no processing indicator is given, the information was summarized or extracted.

Unfamiliar names rendered phonetically or transliterated are enclosed in parentheses. Words or names preceded by a question mark and enclosed in parentheses were not clear in the original but have been supplied as appropriate in context. Other unattributed parenthetical notes within the body of an item originate with the source. Times within items are as given by source.

The contents of this publication in no way represent the policies, views or attitudes of the U.S. Government.

PROCUREMENT OF PUBLICATIONS

JPRS publications may be ordered from the National Technical Information Service, Springfield, Virginia 22161. In ordering, it is recommended that the JPRS number, title, date and author, if applicable, of publication be cited.

Current JPRS publications are announced in Government Reports Announcements issued semi-monthly by the National Technical Information Service, and are listed in the Monthly Catalog of U.S. Government Publications issued by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

Correspondence pertaining to matters other than procurement may be addressed to Joint Publications Research Service, 1000 North Glebe Road, Arlington, Virginia 22201.

JPRS-CAG-86-028

24 JULY 1986

CHINA REPORT

AGRICULTURE

1983 AGRICULTURAL YEARBOOK

Beijing ZHONGGUO NONGYE NIANJIAN 1983 [CHINA AGRICULTURAL YEARBOOK, 1983] in Chinese May 84 pp 1-7, 1-5, 19, 30-66, 70-74, 80-83, 93-100, 102-111, 120-121, 124-130, 149-150, 206-211, 215-234, 238-239, 243-244, 255-259, 300-313, 381-382

[Selections from the 1983 China Agricultural Yearbook, published by Nongye Chubanshe]

CONTENTS

Table of Contents.....	1
Certain Problems in the Current Rural Economic Policies (Excerpts from Document No 1 of CPC Central Committee in 1983).....	33
Statistics of Agricultural Economy (1982)	
Agricultural Population, Organization of Production.....	48
National Population and Organization of Rural People's Communes.....	48
Agriculture.....	49
GVAO in Provinces, Municipalities, and Autonomous Regions (Based on 1982 Prices).....	49
Composition of GVAO of Various Provinces, Municipalities, and Autonomous Regions (Based on 1982 Prices and as Percentage of GVAO)...	50
Indicators of Increase and Decrease in National GVAO (Based on 1980 Constant Prices).....	51
GVAO of Various Provinces, Municipalities, and Autonomous Regions (Based on 1980 Constant Prices).....	52
Composition of GVAO of Various Provinces, Municipalities, and Autonomous Regions (Based on 1980 Constant Prices and as Percentage of GVAO).....	53

GVAO and Indices for Such Output in Various Provinces, Municipalities, and Autonomous Regions (Based on 1980 Constant Prices).....	54
Area Sown and Multiple-Cropping Indices for Farm Crops in Various Provinces, Municipalities, and Autonomous Regions.....	55
Area Sown and Output of Major Agricultural Crops in Various Provinces, Municipalities, and Autonomous Regions.....	56
Output of Silkworm Cocoons and Tea in Various Provinces, Municipalities, and Autonomous Regions.....	68
Output of Fruits in Various Provinces, Municipalities, and Autonomous Regions.....	69
Areas of Various Provinces, Municipalities, and Autonomous Regions Devoted to Mulberry Groves, Oak Trees on Slopes, and Tea Groves.....	70
Areas of Various Provinces, Municipalities, and Autonomous Regions Devoted to Fruit Orchards.....	71
National Composition of Grain Crops by Individual Crops.....	73
Indicators of Grain Output in Various Provinces, Municipalities, and Autonomous Regions.....	74
Indicators of Rice Output in Various Provinces, Municipalities, and Autonomous Regions.....	75
Indicators of Early Rice Output in Various Provinces, Municipalities, and Autonomous Regions.....	76
Indicators of Wheat Output in Various Provinces, Municipalities, and Autonomous Regions.....	77
Indicators of Tuber Output in Various Provinces, Municipalities, and Autonomous Regions.....	78
Indicators of Maize Output in Various Provinces, Municipalities, and Autonomous Regions.....	79
Indicators of Gaoliang Output in Various Provinces, Municipalities, and Autonomous Regions.....	80
Indicators of Millet Output in Various Provinces, Municipalities, and Autonomous Regions.....	81
Indicators of Soybean Output in Various Provinces, Municipalities, and Autonomous Regions.....	82

Indicators of Cotton Output in Various Provinces, Municipalities, and Autonomous Regions.....	83
Indicators of Plant Oil Output in Various Provinces, Municipalities, and Autonomous Regions.....	84
Forestry.....	85
Afforested Area and Areas of Different Forests in Various Provinces, Municipalities, and Autonomous Regions.....	85
Animal Husbandry.....	86
Indicators of National Livestock Output.....	86
Increase in Number of Pigs in Various Provinces, Municipalities, and Autonomous Regions.....	88
Increase in Output of Pork, Beef, and Mutton in Various Provinces, Municipalities, and Autonomous Regions.....	89
Commune- and Brigade-Run Enterprises.....	91
Gross Income of Commune- and Brigade-Run Enterprises in Various Provinces, Municipalities, and Autonomous Regions.....	91
Basic Conditions of Commune- and Brigade-Run Enterprises in Various Provinces, Municipalities, and Autonomous Regions.....	92
Major Financial Indices of Commune- and Brigade-Run Enterprises in Various Provinces, Municipalities, and Autonomous Regions.....	93
State Farm and Land Reclamation.....	95
Industrial and Agricultural Output Value of State Farms in Various Provinces, Municipalities, and Autonomous Regions.....	95
Grain and Bean Output in State Farm and Land Reclamation Sector of Various Provinces, Municipalities, and Autonomous Regions.....	96
Cotton Output in State Farm and Land Reclamation Sector of Various Provinces, Municipalities, and Autonomous Regions.....	97
Plant-oil Output in State Farm and Land Reclamation Sector of Various Provinces, Municipalities, and Autonomous Regions.....	98
Output of Sugar, Rubber, Fruits, and Ginseng in State Farm and Land Reclamation Sector of Various Provinces, Municipalities, and Autonomous Regions.....	99

Output of Animal and Aquatic Products in State Farm and Land Reclamation Sector of Various Provinces, Municipalities, and Autonomous Regions.....	100
Number of Farm Machines in Use and Level of Agricultural Mechanization in State Farm and Land Reclamation Sector of Various Provinces, Municipalities, and Autonomous Regions.....	101
Farm Machines	103
Yearend Number of Major Farm Machines in Use Throughout the Country..	103
Yearend Number of Major Farm Machines in Use in Various Provinces, Municipalities, and Autonomous Regions.....	104
Number of Tractors and Farm Trucks Owned Individually or Jointly by Peasants in Various Provinces, Municipalities, and Autonomous Regions.....	113
Natural Disasters.....	114
Disaster Area and Disaster-Stricken Areas.....	114
Farmland Capital Construction.....	115
Investment in Agriculture, Forestry, Water Conservancy, and Meteorology in Various Provinces, Municipalities, and Autonomous Regions.....	115
State Finance.....	116
Status of State Financial Receipts and Payments.....	116
Status of Deposits and Loans of Rural Credit Cooperatives.....	116
Rural Commerce, Village Fairs.....	117
Total Volume of Agricultural Sideline Product Procurement and Increase/Decrease in Amounts of Procurement.....	117
Volume of Retail Sales From Peasants to Nonagricultural Population in Village Fairs of Various Provinces, Municipalities, and Autonomous Regions.....	118
Price Indices in Village Fairs of Various Provinces, Municipalities, and Autonomous Regions (as Percentage of 1981 Prices).....	118
Average Mixed Procurement Prices of Agricultural Sideline Products...	119

Indices of List Prices for Procurement of Different Agricultural Sideline Products by State Sector of Commerce (as Percentage of 1950 Prices).....	120
General List Price Indices of Rural Industrial Products and Agricultural Sideline Products.....	121
Retail Sales Volume of Rural Commodities and Indices.....	121
Price Parity in Exchange of Agricultural for Industrial Products.....	122
Yearend Number of Peasants' Major Durable Articles in Various Provinces, Municipalities, and Autonomous Regions.....	123
Per Capita Housing Area and New Housing Area of Peasants in Various Provinces, Municipalities, and Autonomous Regions.....	124
Agriculture.....	125
Output-Related Responsibility System.....	125
Extensive Development of Specialized (Priority) Households.....	127
Pattern of Agricultural Production Gradually Becoming Rational.....	132
Strengthen Land Management, Cherish Every Inch of Land.....	136
Animal Husbandry.....	138
Vigorously Develop Animal Husbandry in Farming Areas.....	138
Before- and After-Production Services, Specialization and Socialization of Animal Husbandry.....	141
Promising Future for Combination of Animal Husbandry and Fishery in River Network Regions.....	147
Responsibility Systems of Grassland Management and Cattle Management Should Be Suitable to Each Other.....	149
Contract System To Be Upheld in Pig Procurement.....	151
State Farm and Land Reclamation.....	155
Uphold the Policy of Readjustment, Develop the Work of State Farm and Land Reclamation.....	155
Economic Integration of State Farms and the Countryside.....	157
Strengthen Financial Management, Improve Economic Results.....	159

Advisability of Granting Loans for Supporting Agricultural Reclamation Enterprises.....	161
Agricultural Machinery.....	163
Run Agricultural Machinery Service Stations Well.....	163
Actively Train Agricultural Mechanization Cadres.....	166
Start With Energy Conservation in Doing a Good Job of Agricultural Machinery Maintenance.....	167
Produce Small Farm Machines of Good Quality and Low Prices.....	170
Actively Develop Machinery for Processing Agricultural Sideline Products.....	171
Water Conservancy.....	172
Actively Develop Small Hydropower Stations.....	172
Strengthen Management of Water Conservancy, Improve Economic Results	175
Aquatic Production.....	179
Improve the System of Responsibility for Fishery Production.....	179
Affirm the Right To Use Water Surfaces and Beaches.....	180
Protect Fishery Resources for Breeding Maritime Products.....	181
Build Fishing Grounds in Outer Seas.....	182
Pay Attention to Breeding in Small Water Surfaces.....	183
Vigorous Development of Breeding in Beaches of Shallow Seas.....	186
Technological Measures of Agricultural Production	
Agriculture.....	188
Technology of Cultivation by Mulching With Plastic Film.....	188
Seed Selection for Rapeseed With Low Erucic Acid Content and Its Cultivation.....	192
Animal Husbandry.....	194
Develop the Production of Milk Cattle.....	194
Carefully Attend to the Improvement of Domestic Animals.....	196

Develop the Production of Carpet Wool.....	199
Remarkable Success in Improvement of Sheep.....	201
Run Fodder-Seed Farms Well.....	202
Develop Compound Feeds, Improve Economic Results.....	204
 High Output, Good Economic Results (1982)	
High Output.....	207
Counties With Highest Per-Mu Grain Output.....	207
Counties With Highest Per-Mu Cotton Output.....	209
Counties With Highest Per-Mu Plant-Oil Output.....	210
Counties With Largest Afforested Area Per Person.....	211
Counties With Most Trees Scattered on the "Four Sides" Per Person....	212
Counties With Most Large Animals (Yearend Inventory Number).....	214
Counties With Most Slaughtered Pigs Per Person.....	216
Counties With Most Sheep Per Person.....	217
Counties With Highest Output of Aquatic Products.....	218
Counties With Largest Grain Contributions to the State.....	219
Good Economic Results.....	221
Counties With Highest GVAO (Based on 1980 Constant Prices).....	221
Counties With Most Rapid Increase in GVAO Compared With 1980 (Based on 1980 Constant Prices).....	223
Counties With Highest Net Income Per Person.....	225
 Livelihood of Rural Population Surveyed	
Investigation of Peasant Household Income and Expenditures by Chen Jixin [7115 4949 0207] and Ye Changlin [0673 7022 2651].....	227

Indicators of Early Rice Output in Various Provinces, Municipalities, and Autonomous Regions	57
Indicators of Wheat Output in Various Provinces, Municipalities, and Autonomous Regions	58
Indicators of Tuber Output in Various Provinces, Municipalities, and Autonomous Regions	59
Indicators of Maize Output in Various Provinces, Municipalities, and Autonomous Regions	60
Indicators of Gaoliang Output in Various Provinces, Municipalities, and Autonomous Regions	61
Indicators of Millet Output in Various Provinces, Municipalities, and Autonomous Regions	62
Indicators of Soybean Output in Various Provinces, Municipalities, and Autonomous Regions	63
Indicators of Cotton Output in Various Provinces, Municipalities, and Autonomous Regions	64
Indicators of Plant Oil Output in Various Provinces, Municipalities, and Autonomous Regions	65
Forestry	66
Afforested Area and Areas of Different Forests in Various Provinces, Municipalities, and Autonomous Regions	66
Output of Timber, Bamboo and Sawed Timber in Various Provinces, Municipalities, and Autonomous Regions	67
Output of Artificial Boards in Various Provinces, Municipalities, and Autonomous Regions	67
Output of Forest-Produced Chemical Products in Various Provinces, Municipalities, and Autonomous Regions	68
Output of Forest Products in Various Provinces, Municipalities, and Autonomous Regions	69
Animal Husbandry	70
Indicators of National Livestock Output	70
Increase in Number of Pigs in Various Provinces, Municipalities, and Autonomous Regions	72

Increase in Output of Pork, Beef, and Mutton in Various Provinces, Municipalities, and Autonomous Regions	73
Increase in Output of Cow Milk and Goat Milk in Various Provinces, Municipalities, and Autonomous Regions	75
Increase in Number of Large Animals in Various Provinces, Municipalities, and Autonomous Regions	76
Increase in Number of Sheep and Goats	78
Commune- and Brigade-run Enterprises	80
Gross Income of Commune- and Brigade-Run Enterprises in Various Provinces, Municipalities, and Autonomous Regions	80
Basic Conditions of Commune- and Brigade-Run Enterprises in Various Provinces, Municipalities, and Autonomous Regions	81
Major Financial Indices of Commune- and Brigade-Run Enterprises in Various Provinces, Municipalities, and Autonomous Regions	82
Output of Major Products of Commune- and Brigade-run Industrial Enterprises in Various Provinces, Municipalities, and Autonomous Regions	85
Output of Major Products of Commune- and Brigade-Run Agricultural Enterprises in Various Provinces, Municipalities, and Autonomous Regions	89
Aquatic Products	90
Output of Aquatic Products of Various Provinces, Municipalities, and Autonomous Regions	90
Marine Products Output of Various Provinces, Municipalities, and Autonomous Regions	90
Output of Major Marine Products of Various Provinces, Municipalities, and Autonomous Regions	91
Output of Freshwater Products of Various Provinces, Municipalities, and Autonomous Regions	91
Output of Freshwater Products of Various Provinces, Municipalities, and Autonomous Regions (classified according to varieties)	92
National Area for Breeding Marine and Freshwater Products and Output	92

Land Reclamation and State Farms	93
Industrial and Agricultural Output Value of State Farms in Various Provinces, Municipalities, and Autonomous Regions	93
Grain and Bean Output in State Farm and Land Reclamation Sector of Various Provinces, Municipalities, and Autonomous Regions	94
Cotton Output in State Farm and Land Reclamation Sector of Various Provinces, Municipalities, and Autonomous Regions	95
Plant-Oil Output in State Farm and Land-Reclamation Sector of Various Provinces, Municipalities, and Autonomous Regions	95
Output of Sugar, Rubber, Fruits, and Ginseng in State Farm and Land Reclamation Sector of Various Provinces, Municipalities, and Autonomous Regions	96
Output of Animal and Aquatic Products in State Farm and Land Reclamation Sector of Various Provinces, Municipalities, and Autonomous Regions	97
Number of Farm Machines in Use and Level of Agricultural Modernizations in State Farm and Land Reclamation Sector of Various Provinces, Municipalities, and Autonomous Regions	98
Farm Machines	100
Yearend Number of Major Farm Machines in Use Throughout the Country	100
Yearend Number of Major Farm Machines in Use in Various Provinces, Municipalities, and Autonomous Regions	102
Number of Tractors and Farm Trucks Owned Individually or Jointly by Peasants in Various Provinces, Municipalities, and Autonomous Regions	111
Water Conservancy	112
Number of Reservoirs, Ponds, and Dams in Various Provinces, Municipalities, and Autonomous Regions	112
Areas Treated for Prevention of Waterlogging and Alkalaliniza- tion in Various Provinces, Municipalities, and Autonomous Regions	112
Fixed Drainage and Irrigation Stations and Pumping Stations in Various Provinces, Municipalities, and Autonomous Regions	113

Chemical Fertilizers, Insecticides	114
Output of Agricultural Chemical Fertilizers and Agricultural Insecticides in Various Provinces, Municipalities, and Autonomous Regions (based on 100 percent nitrogen, phosphate, and potassium)	114
Level of Agricultural Modernization	115
Farmland Irrigation Facilities in Various Provinces, Municipalities, and Autonomous Regions	115
Rural Electrification in Various Provinces, Municipalities, and Autonomous Regions	116
Chemical Fertilizer Application in Various Provinces, Municipalities, and Autonomous Regions (based on actual amounts used)	117
Application of Chemical Fertilizers in Various Provinces, Municipalities, and Autonomous Regions (based on 100 percent efficiency)	118
Agricultural Mechanization in Various Provinces, Municipalities, and Autonomous Regions	119
Natural Disasters	120
Disaster Areas and Disaster-Stricken Areas (1952-1982)	120
Agricultural Capital Construction Investment	121
Investment in Agriculture, Forestry, Water Conservancy, and Meteorology in Various Provinces, Municipalities, and Autonomous Regions	121
Capital Construction Projects in Progress and Completed for Commission in Various Provinces, Municipalities, and Autonomous Regions	122
Fixed Assets Derived From New Capital Construction in Agriculture, Forestry, Water Conservancy, and Meteorology in Various Provinces, Municipalities, and Autonomous Regions	123
State Finance	124
Status of State Financial Receipts and Payments	124
Status of Deposits and Loans of Rural Credit Cooperatives	124

Rural Commerce, Village Fairs	125
Total Volume of Agricultural Sideline Product Procurement and Increase/Decrease in Amounts of Procurement	125
Volume of Retail Sales from Peasants to Nonagricultural Population in Village Fairs of Various Provinces, Municipalities, and Autonomous Regions	126
Price Indices in Village Fairs of Various Provinces, Municipalities, and Autonomous Regions (as percentage of 1981 prices)	126
Average Mixed Procurement Prices of Agricultural Sideline Products	127
Indices of List Prices for Procurement of Different Agricultural Sideline Products by State Sector of Commerce (as percentage of 1950 prices)	128
General List Price Indices of Rural Industrial Products and Agricultural Sideline Products	129
Retail Sale Volume of Rural Commodities and Indices	129
Price Parity in Exchange of Agricultural for Industrial Products	130
Rural Commercial, Catering, and Service Units and Their Personnel	132
Imports and Exports of Agricultural Sideline Products	133
Amounts of Major Agricultural and Processed Products Imported by Foreign Trade Departments	133
Amounts of Major Agricultural and Processed Products Exported by Foreign Trade Departments	138
Amounts of Chemical Fertilizers and Timber Imported by Foreign Trade Departments	139
Sample Survey of Income and Expenditures of Peasant Households	140
Basic Conditions of Surveyed Households (1978-1982)	140
Per Capita Net Income and Its Source for Peasant Households (1978-1982)	140
Per Capita Net Household Side Income and Its Sources (1978-1982)	140

Per Capita Daily Living Expenditures of Peasants in Various Provinces, Municipalities, and Autonomous Regions	141
Composition of Per Capita Daily Living Expenditures of Peasants in Various Provinces, Municipalities, and Autonomous Regions	143
Per Capita Expenditures of Peasants on Purchasing Commodities	145
Composition of Per Capita Expenditures of Peasants on Purchasing Commodities	146
Per Capita Expenditures of Peasants on Major Foodstuffs in Various Provinces, Municipalities, and Autonomous Regions	147
Yearend Number of Peasants' Major Durable Articles in Various Provinces, Municipalities, and Autonomous Regions	149
Per Capita Housing Area and New Housing Area of Peasants in Various Provinces, Municipalities, and Autonomous Regions	150
Statistical Charts of Agriculture Since 3d Plenum of 11th CPC Central Committee	151-156
General Conditions of Agriculture	157
General Conditions of Forestry	158
General Conditions of Animal Husbandry	159
General Conditions of Commune- and Brigade-Run Enterprises	159
General Conditions of State Farm and Land Reclamation Sector	161
General Conditions of Farm Machinery	161
General Conditions of Water Conservancy	162
General Conditions of Aquatic Production	163
General Conditions of Meteorology	164
Agriculture in Various Localities Since 3d Plenum of 11th CPC Central Committee	
Agriculture in Beijing Municipality	166
Agriculture in Tianjin Municipality	167
Agriculture in Hebei Province	168
Agriculture in Shanxi Province	170
Agriculture in Nei Monggol Autonomous Region	171
Agriculture in Liaoning Province	172

Agriculture in Jilin Province	174
Agriculture in Heilongjiang Province	176
Agriculture in Shanghai Municipality	177
Agriculture in Jiangsu Province	178
Agriculture in Zhejiang Province	179
Agriculture in Anhui Province	180
Agriculture in Fujian Province	181
Agriculture in Jiangxi Province	182
Agriculture in Shandong Province	184
Agriculture in Henan Province	185
Agriculture in Hubei Province	186
Agriculture in Hunan Province	187
Agriculture in Guangdong Province	189
Agriculture in Guangxi Zhuang Autonomous Region	190
Agriculture in Sichuan Province	191
Agriculture in Guizhou Province	192
Agriculture in Yunnan Province	193
Agriculture in Xizang Autonomous Region	195
Agriculture in Shaanxi Province	196
Agriculture in Gansu Province	197
Agriculture in Qinghai Province	198
Agriculture in Xinjiang Uygur Autonomous Region	199
 Agricultural Policies and Administrative Measures	202
 Comprehensive	202
 There Must Be Born Material and Spiritual Wealth	202
 Carry Out Family Planning Effectively To Control the Growth of Rural Population	204
 Agricultural Laws in the Process of Development	205
 Agriculture	206
 Output-Related Responsibility System	206
 Extensive Development of Specialized (Priority) Households	207
 Pattern of Agricultural Production Gradually Becoming Rational	209
 Strengthen Land Management, Cherish Every Inch of Land	211
 Forestry	211
 Manage Forests According to Law	211
 Actively Unfold the Work of "Three Fixes"	212
 Voluntary Tree-Planting by All People	213

New Appearance of Cities After Tree-Planting	214
Animal Husbandry	215
Vigorously Develop Animal Husbandry in Farm Areas	215
Before- and After-Production Services, Specialization, and Socialization of Animal Husbandry	216
Promising Future for Combination of Animal Husbandry and Fishery in River-Network Regions	219
Responsibility Systems of Grassland Management and Cattle Management Should Be Suitable to Each Other	219
Contract System To Be Upheld in Pig Procurement	220
State Farm and Land Reclamation	222
Uphold the Policy of Readjustment, Develop the Work of State Farm and Land Reclamation	222
Economic Integration of State Farms and the Countryside	223
Strengthen Financial Management, Improve Economic Results	223
Advisability of Granting Loans To Support Agricultural Reclamation Enterprises	224
Agricultural Machinery	225
Run Agricultural Machinery Service Stations Well	225
Actively Train Agricultural Mechanization Cadres	226
Start With Energy Conservation in Doing a Good Job of Agricultural Machinery Maintenance	226
Produce Small Farm Machines of Good Quality and Low Prices	227
Actively Develop Machinery for Processing Agricultural Side-line Products	228
Water Conservancy	228
Actively Develop Small Hydropower Stations	228
Strengthen Management of Water Conservancy, Improve Economic Results	229

Aquatic Production	230
Improve the System of Responsibility for Fishery Production	230
Affirm the Rights To Use Water Surfaces and Beaches	231
Protect the Fishery Resources for Breeding Maritime Products	231
Building Fishing Grounds in Outer Seas	232
Pay Attention to Breeding in Small Water Surfaces	232
Vigorous Development of Breeding in Beaches of Shallow Seas	233
Meteorology	234
Accurately and Quickly Forecast Diastrous Weather	234
Actively Develop Specialized Weather Service	235
Rural Welfare, Culture	235
Help Poor Families End Poverty Through Labor	235
Persist in Support for the "Five-Protection" Families and Protect Their Means of Subsistence	236
New Developments in Rural Mass Cultural Activities	236
Technological Measures for Agricultural Production	238
Agriculture	238
Technology of Cultivation by Mulching With Plastic Sheets	238
Remarkable Increase in Output of Grain Crops as Result Of Spraying Potassium Dihydrogen Phosphate Solution on Roots	239
New Progress in Overall Prevention of Rice Insect Pests	239
Improved Technology for Prevention of Pink Cotton Bollworm-- Killing Its Moths by All-round Application of DDVP Fumigant	241
Strengthen the Immunization and Prevention of Fusarium Wilt of Cotton	242
Carefully Attend to Stock Seed Production	242
Seed Selection for Rapeseed With Low Erucic Acid Content and Its Cultivation	243

Carefully Attend to the Work of Vegetable Seed Selection	244
Trimming of Apple Trees	245
Different Methods of Storing Apples	246
Survey on Present Land Utilization	247
Popularize the Use of Double-Layer Water-Tight Seal for Methane Pits	247
Plastic Scaffolding for Steel Pipe Assembling	248
Forestry	249
Technology for Transforming Low-Yield Bamboo Forests	249
Transplantation of Foreign Pine Saplings	249
Technical Measures for Bumper Date Harvest	250
Improve the Quality of Aerial Sowing, Lower the Cost of Afforestation	251
Operation of Timber-Seed Farms	252
Establish Production Bases for Tree Seeds	253
New Techniques To Make Thinner Surface Layers of Plywood and To Speed Up Lamination	254
New Techniques and New Technologies To Make Plastic Face Boards That Are Less Inflammable and Have Less Luster	254
Animal Husbandry	255
Develop the Production of Milk Cattle	255
Carefully Attend to the Improvement of Domestic Animals	256
Develop the Production of Carpet Wool	257
Remarkable Success in Improvement of Sheep	257
Run Fodder-Seed Farms Well	258
Develop Compound Feeds, Improve Economic Results	258

State Farm and Land Reclamation	259
Initial Success of State Farms in Encouraging the Return of Rice Stalks to the Field	259
Successful Techniques for Large-Area Cultivation of Rubber Plants Between 18° and 20° North	260
Specialization, Mechanization, Standardization, and Regionalization of Seeds in State Farms of South China	261
Production of Fat Lambs in State Animal Farms	261
Organize the Technical Service Teams To Pass On the Techniques of Repairing Farm Machines and Replacing Old Parts	262
Farm Machines	263
Popularize the Use of Plastic Sheets To Cover Machinery	263
Develop Small-Scale Mechanized Chicken Raising	264
Develop the Production of Manual Water Pumps	265
Water Conservancy	265
New Technology of Water and Soil Preservation	265
Assessment of Economic Indices in the Technology of Mechanical and Electrical Drainage and Irrigation and Energy Conservation in Pumping Stations	266
Automation in Large Drain and Irrigation Stations and Pumping Stations	268
Farmland Water Drainage	269
Destroy Termites To Consolidate Dikes, Eliminate Pests To Increase Benefits	270
Aquatic Production	271
Develop the Use of Lighted Purse Seines in Fishery	271
Shellfish Breeding in Indigenous Ponds	271
The Use of Flat-Surface Freezers	272
Popularize the Use of Hydropowered Pond Excavation Units	273

Meteorology	274
The Use of Weather Television in Weather Analyses and Forecasts	274
Introduction of Selected Specialized (Priority) Households	
Beijing Municipality	275
Tianjin Municipality (3)	275
Hebei Province (5)	276
Shanxi Province (5)	277
Nei Monggol Autonomous Region (4)	278
Liaoning Province (6)	278
Jilin Province (5)	280
Heilongjiang Municipality (3)	281
Shanghai Municipality (3)	281
Jiangsu Province (5)	282
Zhejiang Province (6)	283
Anhui Province (5)	284
Fujian Province (5)	285
Jiangxi Province (6)	286
Shandong Province (6)	287
Henan Province (6)	288
Hubei Province (5)	290
Hunan Province (5)	291
Guangdong Province (6)	291
Guangxi Zhuang Autonomous Region (5)	292
Sichuan Province (7)	293
Guizhou Province (4)	294
Yunnan Province (5)	295
Shaanxi Province (5)	296
Gansu Province (3)	297
Qinghai Province (2)	297
Ningxia Hui Autonomous Region	298
Xinjiang Uygur Autonomous Region (4)	298
High Output, Good Economic Results (1982)	
High Output	300
Counties With Highest Per-Mu Grain Output	300
Counties With Highest Per-Mu Cotton Output	301
Counties With Highest Per-Mu Plant-Oil Output	302
Counties With Largest Afforested Area Per Person	303
Counties With Most Trees Scattered on the "Four Sides" Per Person	304
Counties With Most Large Animals (Yearend Inventory Number)	305

Counties With Most Slaughtered Pigs Per Person	306
Counties With Most Sheep Per Person	307
Counties With Highest Output of Aquatic Products	308
Counties With Largest Grain Contribution to the State	309
Good Economic Results	310
Counties With Highest GVAO (based on 1980 constant prices)	310
Counties With Most Rapid Increase in GVAO Compared With 1980 (based on 1980 constant prices)	311
Counties With Highest Net Income Per Person	313
Agricultural Conferences and Professional Conferences	
Agriculture	314
National Conference on Rural Ideological-Political Work	314
National Conference on Hybrid Rice Production	314
National Forum on Bringing Grain Into Provinces and Regions and on Grain Production	315
National Conference for Exchange of Experiences in Seed Breeding for Hybrid Rice	315
National Conference for Exchange of Experiences in Tech- nology of Mulching for Cotton	316
Conference for Exchange of Experiences in Nursing and Transplanting of Cotton Seedlings With Plastic Films	316
Symposium on Soybean Production in Huang He-Huai He-Hai He Drainage Basin	317
Conference for Exchange of Experiences on Improving Tobacco Quality	317
Symposium on Rural Flower-Tree Enterprises	317
National Conference of Advanced Representatives of "Five No's" Granaries	318
Symposium on the Work of Seed-Processing Factories	318

Conference for Exchange of Experiences of Experimental Counties as Centers for Practical Experiments, Popularization, and Training in Agroscience	318
National Conference for Exchange of Experiences in Studying Land Management	319
Symposium of Bureau Directors of Commune- and Brigade-Run Enterprises in 22 Provinces, Municipalities, and Autonomous Regions	319
National Forum on the Work of Consolidating Commune- and Brigade-Run Enterprises	319
National Forum on the Work of Investigating Agricultural Basic Points	320
National Conference for Exchange of Experiences of Marsh Gas Technical Service Companies	320
Second National Conference on Firewood-Saving and Coal-Saving Ovens	321
Study and Discussion Meeting of Chinese and Foreign Scholars on Agricultural Education	321
National Conference on International Economic and Technical Cooperation in Agriculture	322
Forestry	322
National Conference on Work of "Three Fixed [Quotas]" in Forestry	322
National Conference of Consolidation of Forestry Enterprises	323
National Conference on Secondary Forestry Education	323
Symposium on Technology for Increased Use of Resin and Turpentine	323
National Conference on Inventory and Management of Forestry Resources	324
Report Meeting on Aerial Sowing and Afforestation	324
Conference for Exchange of Experiences in Total Quality Control of Plywood	324
All-Army Conference for Summing Up Afforestation Experiences and Commending Advanced Units	325

Animal Husbandry	325
National Forum on Production and Supply of Meat, Milk, Poultry, and Eggs in Large and Medium Cities	325
Conference on Animal Husbandry in the South	326
Conference on Animal Husbandry in the North	326
State Farms and Land Reclamation	327
National Conference of Directors of State Farms and Land Reclamation Departments (Bureaus)	327
National Conference on Scientific and Technical Work in the State Farm and Land Reclamation Sector	327
Conference on Zoning of State Farms in Southern China for Agricultural Mechanization in Planting Tropical Crops	328
Symposium of State Farms on Tea Production	328
National Report Meeting on the Nursing, Control, and Checkup of Rubber Saplings	328
National Forum of State Farm and Land Reclamation Sector on Work of Institutes of Higher Learning	329
Farm Machinery	329
National Forum on Control Over Agricultural Mechanization	329
National Forum on Training of Farm Machine Personnel	329
National Forum on Production Planning for Farm Machine Industry	330
National Conference of Managers of Farm Machine Supply (Service) Companies	330
Symposium on Popularization of the Technique of Rice Seedling Nursing and Mechanical Transplanting as in Factory Operation	331
National Forum on Evaluation of Farm Machines	331
Water Conservancy	332
Four National Conferences on Water and Soil Conservation	332
National Conference on Comprehensive Operation of Water Conservancy System	332

National Forum on Farmland Water Conservancy	333
Symposium on Protection of the Chang Jiang's Water Source	333
National Forum on Work of Regimen	334
Aquatic Products	334
National Conference on Freshwater Fishery	334
National Conference on Seawater Breeding	334
Symposium on Joint Operation of Secondary and Specialized Schools of Aquatic Production	335
Meteorology	335
National Conference of Meteorology Bureau Directors	335
National Conference on Disastrous Weather Forecast Service	335
Rural Finance	336
National Conference of Presidents of Branches of the Agricultural Bank	336
Seminars on Agriculture	
1982 Seminar of China Agricultural and Economic Society	337
Seminar on Agricultural Development in Huang He-Huai He-Hai Plain	338
Annual Meeting of China Agricultural and Economic Society on Studies in Agricultural Planning and Agricultural Zoning	339
Seminar on Improvement of National Territory	339
Academic Symposium on Overall Planning for Land Utilization at County Level	340
First National Seminar on Agricultural Ecology	340
Exposition of Academic Viewpoints Concerning the Question of Commune- and Brigade-Run Enterprises	341
Exposition of Academic Viewpoints Concerning Agricultural-Industrial-Commercial Integration	342
Discussion Meeting on the Strategy of National Forestry Development	342

Seminar on Improving the Economic Results of Existing Enterprises in State Forest Areas in Northeast and Nei Mongol	343
Seminar on Forestry Economy	344
National Seminar on Economy of State Farms	345
Seminar on Technology and Economy of Mechanical and Electrical Drainage and Irrigation	345
National Seminar on Agricultural-Commercial Relationship	346
National Conference for Academic Exchange in Small Miscellaneous Grain, Small Oil Plants and Small Miscellaneous Bean Crops	346
Fourth Seminar of China Cotton Association	347
National Seminar on Vegetable Cultivation on Exposed Ground	347
Meeting Held by China Academic Society of Tropical Crops to Discussion Quadrupling the Output of Tropical Crops	348
Seminar on Studies of Soil Fertility	348
Second National Seminar on Vegetative Propagation of Plants and Seed Breeding With Radiation	349
National Seminar on Protection and Breeding of Tussah	349
Seminar on Improving Cocoon Quality and Increasing Silk Output	350
Fifth National Congress of China Livestock and Veterinary Association	351
Second National Seminar of China Pasture Association	351
First National Seminar on the Application of Nuclear Technology in the Science of Agricultural Environment	352
National Seminar of 1982 on Rural Energy	352
Monographic Seminary on Eucalyptus	353
Seminar on Aerial Afforestation	353
Seminar on Water Conservation Through Afforestation	354
Seminar on Natural Preserves	355
Seminar on Problems of Pollution in Timber Industry	355

Third Seminar on Sawed Timber	355
Farm Machinery Monographic Seminar	356
Seminar on Agricultural Mechanization in Suburbs of Large, Medium Cities	356
Seminar on Machinery for Improvement of Pastures and for Artificial Pasture Building	357
Third National Seminar on Farm Machine Repairs	358
Seminar on Problems of Rural Transportation	358
Seminar on Problems of Water Sources for Beijing, Tianjin, and Hebei	358
National Seminar on Planning for Small Hydropower Stations	359
Second Conference on Studies in Environmental Water Conservancy	360
Seminar on Compaction and Deformation of Stone-Earth Dikes	360
National Seminar on the Survey of Concrete Dams in Their Original Structure	361
National Seminar of the Problems of Sands in Low Waterhead Key Projects	361
Seminar on Technology of High Output of Mollusks and Algae	362
1982 Seminar of China Meteorological Association	362
National Seminar on [Effect of] Disastrous Weather on Agriculture	363
Survey of Rural Economy	
Investigation of Foshan Prefecture's Rural Economy by Wu Xiang [0702 6272], Liu Qing [0491 7230], and Gu Haiyan [0657 3189 3601]	364
Investigation in Heihutan Integrated Agricultural-Industrial-Commercial Enterprise of Qionglai County, Sichuan by Investigation Group of Liaison Office, China Rural Development Studies Center	369
Investigation of Voluntary Tree-Planting Campaign by All People in Jiangsu-Zhejiang Region by Yong Wentao [0516 7893 2710]	370

Investigation of Preservation of Central and Southern Yunnan and Development of Forestry by Investigation Group of Agricultural Finance Department of Ministry of Finance	372
Investigation of Agricultural Mechanization in Southwestern Region by Li Ben [2621 2609]	374
Investigation of Water Value by Zhang Jinong [1728 1323 6593]	376
Investigation of Freshwater Fishery in Zhujiang Delta by Meng Xiande [1322 2009 1795] and Xie Yongkuan [6200 3057 1401]	378
Investigation of Peasant Household Income and Expenditures by Chen Jixin [7115 4949 0207] and Ye Changlin [0673 7022 2651]	381
Monographic Analyses of Agricultural Economy	
Forest Value and Timber Price	383
Prosperity in the State Farm and Land-Reclamation Sector	386
International Cooperation and Exchange in Agriculture	
Technical Cooperation and Exchange	398
Importation of New Sugar Material--Chrysanthemum With Sweet Leaves	398
Imported Olive Trees Showing Effects in Oil Production	398
Italian Poplars Taking Root in China	398
Huge Algae Being Propagated in China's Northern Sea Areas	398
Coming and Going in Foreign Affairs	399
Important Agricultural Events in 1982	
Important Agricultural Events in 1982	401
Documents, Legislation, and Laws Relating to Agriculture	
Urgent Instructions from CPC Central Committee and State Council on the Prohibition of Indiscriminate Tree Felling (20 October 1982)	411

Resolutions of NPC Standing Committee Concerning the Approval of Regulations of Land Requisition for State Construction (Adopted on 4 May 1982)	412
Regulations of Land Requisition for State Construction (Promulgated by State Council on 14 May 1982)	412
State Council's Notice Concerning the Approval of the Summary of Proceedings of the Meeting on Construction of Rural Housing (7 January 1982)	415
Summary of Proceedings of the Meeting on Construction of Rural Housing	415
State Council's Notice Concerning Approval of the Views of State Agricultural Commission and Ministry of Agriculture Concerning Consolidating the Finance of Communes and Production Brigades (13 January 1982)	417
Views of State Agricultural Commission and Ministry of Agriculture Concerning Consolidating the Finance of Communes and Production Brigades (Excerpts)	418
State Council's Notice Concerning Approval of the Views of State Economic Commission and State Planning Commission on Paying Attention to the Production and Supply of Minor Commodities and Small and Medium-size Farm Tools	419
Views of State Economic Commission and State Planning Commission on Paying Attention to the Production and Supply of Minor Commodities	419
Views of State Economic Commission and State Planning Commission on Paying Attention to the Production and Supply of Small and Medium-Size Farm Tools	420
State Council's Notice Concerning Promulgation of the Regulations on Control of the Use of Land for Building Houses in Villages and Townships (13 February 1982)	421
Regulations on Control of the Use of Land for Building Houses in Villages and Townships	421
State Council Regulations on Voluntary Tree-Planting by All People (Adopted by State Council's Routine Meeting on 27 February 1982)	422
State Council's Supplementary Rules Concerning Revisions of Industrial-Commercial Tax Rates for Commune, and Brigade-Run Enterprises in the Countryside (18 March 1982)	424

State Council's Notice Concerning Promulgation of PRC's Quarantine Regulations for Animal and Plant Imports and Exports (4 June 1982)	424
PRC's Quarantine Regulations for Animal and Plant Imports and Exports	425
State Council's Decision To Clear the Channels of Commodity Circulation Between Urban and Rural Areas To Increase the Flow of Industrial Products to the Countryside (17 June 1982)	427
State Council's Notice Concerning Promulgation of the Regulations on Water and Soil Preservation (30 June 1982)	427
Regulations on Water and Soil Preservation	428
Provisional Regulations on Material Control in State Farms (Factories) (Distributed by Ministry of State Farms and Land Reclamation on 19 January 1982)	430
Notice From Staff Office of State Council Concerning Quarantine and Prevention of Verticillium Wilt of Cotton (18 February 1982)	433
Certain Regulations Concerning the Strengthening of Planning and Management of State Farms and Land Reclamation (Distributed by Ministry of State Farms and Land Reclamation on 24 February 1982)	433
Notice From Ministry of State Farms and Land Reclamation Concerning Distribution of Several Regulations on Consolidation of Enterprises in the State Farms and Land Reclamation Sector (1 March 1982)	435
Several Regulations on Consolidation of Enterprises in the State Farm and Land Reclamation Sector (February 1982)	435
Tentative Regulations on the Administration of Livestock and Veterinary Work (Distributed by Ministry of Agriculture on 25 March 1982)	437
Regulations on Pesticide Registration (Promulgated by Ministry of Agriculture, Ministry of Forestry, Ministry of Chemical Industry, Ministry of Public Health, Ministry of Commerce, and State Council's Environmental Protection Leading Group on 10 April 1982)	438
Notice From State Council's Staff Office Concerning the Scope of Using Farm Tractors for Nonbusiness Transportation (27 April 1982)	439

Notice From Ministry of Agriculture, Animal Husbandry and Fishery Concerning the Promulgation of Tentative Regulations on a National Evaluation of Seed Varieties for Farm Crops (22 May 1982)	440
Tentative Regulations on National Evaluation of Seed Varieties for Farm Crops	440
Regulations on the Safe Use of Pesticides (Promulgated by Ministry of Agriculture, Animal Husbandry and Fishery, and Ministry of Public Health on 5 June 1982)	441
Notice From State Council's Staff Office Relaying the Request From Ministry of Agriculture, Animal Husbandry and Fishery for Instructions on Grain Distribution Among Rural Communes and Brigades and Teams According to State-Set Procurement Prices (11 August 1982)	442
Request From Ministry of Agriculture, Animal Husbandry and Fishery for Instructions on Grain Distribution Among Rural Communes and Brigades and Teams According to State-Set Procurement Prices (13 July 1982)	443
Regulations (Tentative) of Ministry of Agriculture, Animal Husbandry and Fishery on the Work of Evaluating Farm Machines (31 August 1982)	443
Certain Regulations Concerning Strengthening the Financial Management of Production Teams in State Farms (Distributed by Ministry of Agriculture, Animal Husbandry and Fishery on 9 September 1982)	444
Certain Regulations Concerning Farm Machine Service Stations of Communes (Tentative) (Distributed by Ministry of Agriculture, Animal Husbandry and Fishery on 27 October 1982)	446
Notice From the Staff Offices of CPC Central Committee and State Council Relaying a Report From the Rural Policy Research Office of the Secretariat and the Ministry of Urban and Rural Construction and Environmental Protection Concerning the Practical Need To Solve the Problem of Encroachment on Farmland in Building Houses (29 October 1982)	448
Report From the Rural Policy Research Office of the Secretariat and the Ministry of Urban and Rural Construction and Environmental Protection Concerning the Practical Need To Solve the Problem of Encroachment on Farmland in Building Houses (8 October 1982)	448

Notice From Ministry of Agriculture, Animal Husbandry and Fishery Concerning Distribution of the Criteria for Accepting the Consolidation of State Farm and Land Reclamation Enterprises as Satisfactory (12 November 1982)	449
Criteria for Accepting the Consolidation of State Farm and Land Reclamation Enterprises as Satisfactory	449
Notice From State Planning Commission, Ministry of Civil Affairs, Ministry of Finance, China's Agricultural Bank, Ministry of Commerce, Ministry of Foreign Economic Relations and Trade, Ministry of Agriculture, Animal Husbandry and Fishery, Ministry of Education, and State Supplies Bureau Concerning Need for Efforts To Support Poor Households in the Countryside (15 December 1982)	450
Scientific Research Achievements in Agriculture and Their Popularization	
Scientific Research Achievements in Agriculture	452
Agriculture	452
New Winter Wheat Variety "Jinai No 3"	452
New Wheat Variety "Yangmai 3"	452
China's Wheat Varieties and Their Geographical Distribution	452
Survey and Collective of Resources of Wheat Varieties in Yunnan	452
Application of DDVP Fumigant in Prevention of Cotton Pink Bollworm by Killing Its Moths	453
"Xushu-18," a High-Yield, Disease-Resistant Sweet Potato Variety	453
Fine Self-bred Maize Variety 300	453
Early-Maturing, Hard-Grain, and Large-Ear Self-bred Maize Hybrid "Yuanwu 02"	453
Experiences of Transforming Waterlogged Fields Into Dry Land in Lixiahe Area in Yangzhou Summed Up	453
Technique of Sectioning Rape Seeds and Chromatography for Erucic Acid	453
Fine Soybean Strain "Yuejin-5"	454

Popularization of Techniques of Growing Oranges in Sea Polder Areas	454
Special Early Ripening Honey Peach Variety "Yuhualu"	454
Methods To Control Tussah Nematodiasis	454
Research in the Pattern of Winter Migration of Army Worms	454
Selection and Breeding of "Xinhuai" Pigs	455
Experiment on Cross-Breeding and Fattening of Local Pig Breeds in Jiangsu Province	455
Assessment of Effective Phosphate Content in Pig and Chicken Feed and Research in Nutritional Phosphate Deficiency in Pigs and Chicken	455
Albendazole	455
Forestry	456
Expanded Experiments on Large-Area Tree-Planting and Afforestation in the Sandy Wilderness of Yulin	456
Studies in Technology of Aerial Sowing of Chinese Pine Seeds in Afforestation in the Mountainous Region of Hebei	456
Investigations and Study in Technology of Renovating Artificial Larch Forests Before Felling	456
Research on Technology of Cultivating Several Species of Fast-Growing High-Yield European and American Poplars	456
Systematic Research on Technology of Cultivating Horsetail-Pine Forests	457
Studies in Technology of Guizhou in Aerial Sowing and Afforestation	457
Experiments and Studies in Sand-Fixation and Afforestation Over Large Areas in Turpan Prefecture	457
Application of Organization and Cultivation Methods To Propagate Timber Trees	457
Research on Technology of Comprehensive Reafforestation of Denuded Land by Planting Red-Pine Trees in Clusters	457
Research on Dieback of Slash Pine and Loblolly Pine	458

Research on the Law of Growth of Walnut Weevils and Preventative Measures	458
Research on the Technology of Artificial Propagation of Floating Insects of a Rare Color [YiSe Piao Chong 8381 5331 7373 5722]--the Natural Enemy of Scale Insects in Pine Trunks--and Releasing Them in the Forest	458
Research on Use of White Muscardine Mycose for Prevention of Caterpillars on Masson Pine	458
Research on Rotting Barks of Poplars	458
Research on the Migration and Habitual Propagation of Red-Crown Storks	459
ZF-32 Illumination Sprouting Device	459
Control Device for Timber Selection Programming With Microcomputers	459
DQL-Compasses for Tree Survey	459
Research on DF System of Deep-Hole Drilling and Its Application to Deep-Hole Processing of Hot-Pressed Boards	459
Research on Supplementary Material (Paint) for Direct Printing Production Line Imported From West Germany	459
DRY-1 Model High-Frequency Medium-Heating Press	459
Wastewater Treatment in Wet Method of Hard Fiberboard Production	460
Research on Pine-Needle Powder of Masson Pine and Its Bios Substance	460
Research on Use of Ethylene To Stimulate Exudation of Rosin and To Increase Rosin Output From Horsetail Pine	460
Experiments on New Techniques To Produce Refined Furfural	460
Experiments and Research on Prevention of Rotting, Insect Pests, and Deformation of Horsetail Pine	460
Experiments on the Prevention of Rotting, Insect Pests, and Deformation of Pine and Weed Trees	461
Setting Standards of Glasses for Grading Rosin According to Color	461

Experiments in Use of Recycled Water in the Wet Method of Producing Hard Fiberboards	461
Automatic System for Testing and Regulating Pulp Density, pH Value, and Liquid Level of Pulp Pond in Hard Fiberboard Production With Wet Method	461
Xianglin (XL) 120 Model Trucks for Transporting Materials for Afforestation	461
ZLM-50 Timber Carrier	462
DG-3 Bush Trimming Machines	462
NGJ-70 Mud Scooper	462
Seven Standards for Timber Storage Ground Machinery	462
State Farms and Land Reclamation	462
Research on Mechanized Cultivation in Rice Production (Water-Borne Method)	462
"Shitian [4258 3944] 401," a Quadruploid Sweet Melon Variety	463
Technology of Planting Rubber Trees in Large Areas Between 18°N and 24°N	463
Research on Preserver of Rubber Tree Collar	463
Experiments and Research on New Method of Rubber Tapping With Ethylene	463
JZK-80 Model Electronic Equipment for Automatic Control of Milking Machine	463
Farm Machines	464
3-5 HP Walking Tractors	464
Dongfanghong-40 Tractor	464
Hongqi-150 Tractor of Caterpillar Type	464
R175F Diesel Engine	464
180 Diesel Engine	464
495BT Diesel Engine	465
New 6300ZC/8300ZC Diesel Engines	465

Z120W-32 Model Water Turbine Pump	465
JP90/300 Model Sprinkler of Capstan Type	465
2BFC-1 Model Single-Body Sowing Machine of Side-Feeding Type	465
Four-Row, Six-Row Pneumatic Precision Dibbler	465
2BY-24 Model Combined Rice Seed Seed-Sowing Machine of Yalun [1090 6544] Type	465
Machine for Spreading Plastic Mulching Film	466
IG-150 Model Horizontal Extrusion Press for Making Cement and Clay Pipes	466
Dongfeng 4LZ-5 Combined Harvester	466
5T(5TS)-70 Model Thresher	466
5XJ-0.5 Small Seed Selector for Rice and Wheat	466
5HY-2 Model Cereal Baking Device	466
LC-2400 Model Circular Metal Granary With Thin Wall	467
Complete Equipment for Continuous Preliminary Processing of Green Tea	467
Complete Equipment for Continuous Preliminary Processing of Loose Black Tea	467
6CH-50 Large Tea-Baking Machine	467
Tea Plantation Tilling Machine	467
Research on Delinting and Washing Equipment for Cotton Seeds With Sulphuric Acid	467
Large Sprayer With Pulling Spray-Lance	467
All-Purpose Loading Machine for Feeding Ground	467
50-Watt Windpower Generator	467
Complete Equipment for Mechanized Raising of 15,000 Laying Hens and Standard Chicken Coops	468

Water Conservancy	468
Comprehensive Investigation in Zhejiang's Coastal Dikes	468
Experiments and Studies on Strengthening Sandbanks With Water-Driven Vibrator	468
System of Real-Time Processing of Telegrams on Regimen	468
Preliminary Report on Investigations and Assessments of Water Resources in Chang Jiang Drainage Basin	468
Important Scientific and Technological Achievements in the First Stage of Gezhouba Pilot Project	469
Popularization of Important Agroscience	469
Agriculture	469
Technology of Undersowing Rice With Seedlings	469
New Peanut Varieties Yuexuan 58 and Yueyou 116	469
High-Yield Peanut Variety Xuzhou-68-4	470
Xinong-58 Cucumber	470
New Insecticide Antibiotic--Shayasu	470
Forestry	470
Popularization of Saplings for Afforestation From Henhaku and Four Other Mountains in Japan	470
Technology for Bumper Bamboo Harvest	470
Technology of Needle Bundle Cuttage From Slash Pine	470
YDCZ-4 Condenser for Magnetic Brake	470
Technology of Sewage Treatment in Hard Fiberboard Production With Wet Method	471
Aquatic Product	471
Popularization of Method To Increase Output of Niluoluofei [1441 5012 5012 7236] Fish and Its Remarkable Results	471
Propagation of Crucian Carp	471

Agricultural Education Statistics

Basic Conditions of Agricultural Institutes of Higher Learning	472
Basic Conditions of Forestry Institutes of Higher Learning	473
Basic Conditions of Institutes of Higher Learning in the State Farm and Land Reclamation Sector	474
Basic Conditions of Farm Machine Institute of Higher Learning	474
Basic Conditions of Water Conservancy Institutes of Higher Learning	474
Basic Conditions of Aquatic Product Institutes of Higher Learning	474
Basic Conditions of Meteorology Institutes of Higher Learning	474
Basic Conditions of Secondary Agricultural Schools	475
Basic Conditions of Secondary Forestry Schools	476
Basic Conditions of Secondary Schools in the State Farm and Land Reclamation Sector	476
Basic Conditions of Secondary Farm Machine Schools	477
Basic Conditions of Secondary Water Conservancy Schools	478
Basic Conditions of Secondary Aquatic Product Schools	479
Basic Conditions of Secondary Meteorology Schools	479
Conditions of Cadre Training	480

Agricultural Propaganda

Agricultural Training Films and News Films	481
Brief Introduction to Agricultural Publications Which Won National Awards in 1977-1981	486
Catalog of Nationwide Countryside Reading Matters Which Won Awards in 1979-1982	487

Appendices

Foreign Reference Materials on Agriculture	489
Cereal Output Per Area Unit (1982)	489

Timber Output (1981)	489
Aquatic Product Output	490

Catalog of Color Plates

New Appearance of the Zhu Jiang Delta	
	Photographed by Ceng Xiangmin [2582 3276 2404]
Sichuan Forest Area	Photographed by Jin Baoyuan [6855 1405 3293]
Yunnan Forest Area	Photographed by Shen Yantai [3038 1693 1132]
Xinjiang Herding Area	Photographed by Ru Suichu [5423 6659 0443]
Deep-Sea Fishing	Photographed by Zhang Yingwen [1728 5391 2429]
Fish-Breeding Pond	
	Photograph supplied by Zhejiang Provincial Agricultural Commission
Dayudu Powered Irrigation Station on Huang He	
	Photographed by Liu Yuzhong [0491 3022 1813]
Dahua Hydropower Station	Photographed by Liu Wenmin [0491 2429 2404]
Yuantou Meteorology Station on Chang Jiang	
	Photographed by Shen Yantai [3038 1693 1132]
Mechanized Harvesting	Photographed by Huang Chengjiang [7806 2110 3068]
	Photographed
A Flock of Ducks	Photographed by Liu Wenmin [0491 2429 2404]
Bumper Harvest of Delicious Orange	
	Photographed by Liu Wenmin [0491 2429 2404]
Village Fair	Photograph supplied by Xinhua News Agency
Vegetables on the Market	
	Photograph supplied by Shanghai Municipal Agricultural Commission
Knitting	Photograph supplied by China Pictorial Agency

(Excerpts From Document No 1 of CPC Central Committee 1983: "Certain Problems in Current Rural Economic Policies")

The 12th CPC Congress laid down the grand objective of creating a new situation in all fields of socialist modernization and quadrupling the national GVIAO by the turn of the century, and decided on the development of agriculture as one of the priorities in the strategy of attaining this great goal. The whole party, especially the comrades on the agricultural front, must resolutely undertake this glorious and arduous mission.

Many important changes have occurred since the 3d Plenum of the 11th CPC Central Committee. One change which has produced profound effects is the popular adoption of the system of responsibility for agricultural production in different forms. Among these forms, the output-related responsibility system has gradually taken the leading position. This system works under the principle of combining centralization with decentralization to bring into play both collective strength and individual initiative. Further improvement and development of this system will certainly make socialist cooperation in agriculture more compatible with China's realities. This is a great creative undertaking by our peasants under party leadership, and a new development of the Marxist theory of agricultural cooperation practiced in China.

Adoption of the output-related responsibility system and the various rural policies has put an end to the long stagnation in China's agricultural production, accelerated the change from an economy of self-sufficiency or semi-self-sufficiency in agriculture to that of large-scale commodity production, and from traditional to modern agriculture. This trend augurs an even earlier arrival of a vigorous development of our rural economy, and will create more favorable conditions for the attainment of the strategic objective set by the 12th CPC Congress. Now, the orientation has been determined, the avenues have been opened, and the broad masses are forging ahead. The main problem that still remains is that the minds of many comrades are not fully prepared for this historical change, and certain reforms in the superstructure cannot keep pace with the change in the economic base. If this situation continues, the peasants' enthusiasm, already aroused, will be dampened and the rural economy, already enlivened, will be stifled once again. All departments of the party and the government and leading cadres at all levels must make greater efforts to emancipate their minds, be bolder in reforms, and be more enthusiastic and active in serving the people, the basic-level units, and production. They must also conscientiously implement the line, principles and policies of the party, rely on the 800 million peasants and the broad masses of intellectuals, and contribute to the building of a new countryside with a high level of material and spiritual civilization so that the socialist cause in the countryside will continue to advance.

1. To fulfill the task of quadrupling China's GVIAO by the turn of the century and to attain the objective set by the state for agricultural

development, all localities must formulate plans of agricultural development according to their local resources and their economic and technical conditions, and adopt strong measures to ensure the materialization of these plans.

To attain the objective of agricultural development, we must pay great attention to the control of population growth, the rational use of natural resources, and the preservation of a fine ecological environment. On such a premise, we must reform the economic structure of agriculture, practice intensive farming on our limited farmland, and divert our surplus labor to the broader field of economic diversification. The system of economic management must be reformed in order to develop its economic vitality and to enrich commodity production. We must also continue the technical transformation of agriculture, improve the conditions of agricultural production and step up our work in agroscience and education so as to provide agriculture with a fairly advanced material and technical foundation. We must, broadly speaking, gradually reform the economic structure, the system and the technology of agriculture according to our national conditions, and develop our agriculture in a way consistent with the characteristics of socialism in China.

2. China must take the road of an all-round development of agriculture, forestry, animal husbandry, sideline production, and fishery and of the integration of agriculture, industry, and commerce before we can preserve a virtuous circle of agricultural ecology and improve economic results; before we can meet the requirements of industrial development and the needs of the urban and rural population; before the surplus labor in the countryside can be separated from farming without being separated from their home villages and an economic structure with many branches can be set up; and before we can help the peasants become wealthy, change the appearance of the countryside, form a myriad of widely spread out small economic and cultural centers, and gradually narrow the difference between industry and agriculture and between urban and rural areas.

In the past several years, under the policy of sparing no effort in grain production and actively developing economic diversification, we have readjusted the agricultural structure with remarkable results. China has a large population and little farmland, and feeding the population has always been a matter of prime importance. Grain is our people's staple food as well as an important raw material for the food and fodder industries. Bearing in mind the overall situation, we must solve the food problem on the basis of self-reliance. Therefore, we must pay close attention to grain production, and ensure a steady increase in the total output in the areas suitable for grain cultivation. At the same time, we must allocate suitable farmland for cash crops, while those areas that are unfit for farming should be used for forestry or fishery. We must develop the huge tracts of mountainous and hilly land, grassland, water surfaces, sea areas, and beaches in a planned way so as to increase the output of animal products, aquatic products, forestry products, woody plants, grain, oil, and fruits for food and industrial materials. In any case, we must be sure to increase the per-unit output and stress economic results.

There is great potential for the development of our animal husbandry, particularly for the raising of cows, sheep, and other herbivorous animals. The view that animal husbandry cannot be developed without adequate grain output is not realistic. As long as we carry out scientific breeding, run our fodder industry well, and use the fodder resources wisely, it will not take too long for the output of meat, eggs, milk, and other foodstuffs from animal products to be increased several times over. Development of animal husbandry and the combination of agriculture, forestry, and animal husbandry will in turn promote agriculture.

For a long time, we have processed agricultural products in far-away cities and used the countryside only for producing raw materials. This practice not only caused unnecessary damage and waste in the handling of agricultural products, but also restricted the job opportunities for the rural work force as well as the comprehensive utilization of agricultural products. This situation must be improved step by step as planned. The processing facilities to be increased for agricultural products in future should be as close as possible to the location of their production. The peasants having fulfilled their state delivery obligations should be permitted to process and sell what is left so that the agricultural products can be utilized more than once with increased income for the peasants. However, attention must be paid to overall planning so as to guarantee state revenue and the fulfillment of the state's procurement and marketing plans.

3. To stabilize and improve the system of responsibility for agricultural production is still our major task in the countryside.

The rapid development of the output-related responsibility system is by no means coincidental. With peasant households or groups as the contracting units, this system provides greater decisionmaking power to the peasants, brings into play the strong points of small-scale operation, and overcomes the shortcomings of overconcentration in management, of working with a "great flourish," and of egalitarianism. It also inherits the positive results of cooperatives of the past and upholds the system of public ownership of the means of production, including land, and certain functions of unified operation so that the combination of centralized and decentralized operation can be more widely applicable. It is consistent not only with the present predominance of handicraft labor and the present characteristics of agriculture production, but also with the development of productive forces in the course of agricultural modernization. Contracting to households under this system is only one phase of operation in cooperative economy, and a new form of household economy. There is some intrinsic difference between this system and the small private, individual economy of the past, and the two should not be confused. Therefore, this system must be actively supported wherever the broad masses want it. Of course, it cannot be imposed on the people if they do not want it. In this case, the coexistence of different forms of responsibility system should be permitted.

The key to a perfect system of output-related responsibility lies in the adjustment of the relationship between centralization and decentralization through contracted responsibility. The communes and brigades and teams

whose management is mainly centralized should note the advantages of contracting to households. For example, some localities have adopted the system of "responsibility for special jobs and distribution of benefits" with very good results. As to those communes and production brigades or teams whose management is mainly decentralized, there should be overall planning and unified management according to the needs of production and the principle of mutual benefits in all matters as requested by the commune members, such as in matters of mechanized cultivation, water conservancy, plant protection, immunization, livestock breeding, and the introduction of new breeds. A system of unified management and separate contracts should be set up to serve the peasant households.

The output-related responsibility system should also be set up for forestry, animal husbandry, and reclamation of waste mountains and water resources as well as in economic diversification.

A contract system should be set up and perfected. This is an important factor in improving the system of responsibility for agricultural production and is helpful to the correct handling of the relationship between the state, the collectives and the individuals. It thus combines the state's procurement of agricultural products with its supply of the means of production and subsistence for the peasants.

A sound financial system should be set up and perfected to strengthen business management. In some localities, there are such problems as improper subcontracting of land, lack of incentive for investment in soil and land improvement, inadequate support for poor families, an ineffective system of job responsibility for cadres, and irrational remuneration for cadres and in various trades. These problems should be solved as quickly as possible.

4. In recent years, along with the development of economic diversification and the establishment of the output-related responsibility system, many specialized households (priority households) including specialized households under contracts or in independent operation, have emerged. They appeared at the very start as commodity producers with concern for economic results and made good use of unorganized funds and labor. They have brought into play the roles of various experts in the countryside and promoted cooperation in specialized work as well as economic integration in many different forms.

Economic integration is a natural necessity for the development of commodity production and the only way to socialist agricultural modernization. At present, many forms of social service before and after the production process, such as supply and marketing, processing, stocking, transportation, technology, information and credit, have gradually become urgently needed by the broad masses of agricultural producers. To meet these objective needs, cooperative economy has also expanded into these fields and is continuing to enrich itself both in form and in substance.

For a long time, because of the influence of "leftist" errors, some mistaken concepts had gained ascendancy so that at the very mention of cooperation, all means of production had to be pooled and no household undertakings were permitted even on a limited scale, and distribution had to be strictly according to work, while dividends and bonuses were forbidden. For the same reason, cooperation was only limited to cooperation during, but not before or after, the production process and could be organized only within regions along with a step-by-step change in the system of ownership, while multiregional and multilevel integration were not permitted. Practice among the broad masses has broken down these unrealistic conventions.

Under China's rural conditions, the degree of public ownership of the means of production, the method of distribution according to work and the form and substance of cooperative economy may vary in different regions, different categories of products and different economic conditions, but their own special characteristics can still be preserved. For example, while carrying out labor integration, we can also carry out fund integration, or integration without interfering with the rights of ownership of the means of production of the units or individuals, or with the modes of household operations. Outside the sphere of cooperation in production, there can also be integration in supply and demand, in storage and transportation, and in technical service. Integration can be formed in each region or across different regions. Any type of integration would belong to cooperative economy of a socialist character as long as it follows the principle of voluntary participation and mutual benefits among the laborers, accepts the guidance of state planning, adopts the system of democratic management, retains a portion of the earnings, provides for collective ownership of accumulated property, practices distribution according to work or mainly according to work, and at the same time pays certain dividends or bonuses. Thus, economic integration can be formed voluntarily and without compulsion in many forms and at different levels as required by economic development, and many unrelated producers can combine to form an organic component of the entire socialist economy.

5. Reform of the structure of people's communes can proceed in two different directions, namely, adoption of the system of responsibility for production, particularly the output-related responsibility system, and the separation of government administration from commune management.

The system of combined government administration and commune management should be changed to one of separation between them in a prepared and systematic way, and in separate groups at different periods. Before such separation, the communes and production brigades must undertake their administrative duties seriously so as to ensure the smooth progress of the separation. After the separation, the organizations of political power at the basic level will be formed according to the constitution.

In a people's commune, the production brigades or teams were originally the basic accounting units. After adoption of the output-related responsibility system, management will be mainly centralized in some and mainly decentralized in others. These units still belong to cooperative economy

based on collective ownership by the broad laboring masses. Their administrative organs must plan for production according to the guidance of state plans. They must also ensure that the task of delivery to the state is fulfilled, and that the basic means of production, such as land, and other properties under their charge are used to serve commune members in various ways. These regional cooperative economic organizations are necessary for efficient land administration, and their names and sizes, and the establishment of their administrative organs can be decided by the masses in a democratic way. Whether the communes and brigades which originally did not serve as basic accounting units, should be abolished or should remain in the economic integration should be decided according to the actual circumstances or in consultation with the broad masses. The operating expenses of various agencies at the commune level should be paid as usual.

The present commune- and brigade-run enterprises not only provide strong economic support for agricultural production but also serve the peasants in economic diversification. They must be carefully preserved during the structural reform instead of being weakened, undermined or dispersed at will. These enterprises also belong to the cooperative economy and efforts should be made for them to be well run, strengthened and developed in the future. We must carefully proceed with the readjustment and consolidation, strengthen democratic management and mass supervision, and establish different forms of the system of responsibility for production. In some enterprises, the system of the manager (or factory director) assuming full responsibility can be tried out. The basic features of this system are that while the ownership of the enterprise and its accumulations belong to the collective, the manager, within the sphere authorized by the collective and within the duration of his responsibility, has full authority over business administration. Upon the completion of his task, he will be duly remunerated, or will share the above-quota profits. If he fails to complete his task, or causes some loss, his remunerations will be reduced, or he will be required to make good part of the loss. In adopting this responsibility system, we must guard against the possible abuse of power by some people.

6. China as a socialist country does not permit the existence of any exploiting system. However, it is also a developing country with fairly weak productive forces and underdeveloped commodity production, especially in the countryside. Permitting the free flow of funds, technology and labor to a certain extent and their combination in various forms will be beneficial to the development of socialist economy. Therefore, certain economic phenomena newly emerging in the countryside should be treated on their own merits. For example, the exchange of labor among peasant households, the hiring of temporary help by those who can no longer work or are short of labor power, and the hiring of seasonal workers, specialized workers or skilled workers in cooperative economy are only acts of mutual aid through labor or technical cooperation among the broad masses, and should be permitted. The hiring of helpers or training of apprentices by individual households engaged in industry or commerce in the countryside can be carried out in accordance with "Certain Policy Regulations of the State Council Concerning Nonagricultural Individual Economy in Cities and Townships."

The purchase of equipment for processing agricultural sideline products, small tractors or small motorboats by peasants individually or jointly for production and transportation is useful to the promotion of commodity production in the countryside and to the invigoration of the rural economy, and should be permitted. At the present stage and as a matter of principle, even the purchase of large and medium tractors and trucks by private individuals need not be prohibited. All localities can work out feasible plans for marketing according to local conditions and the capability of fuel supply. The state-run enterprises and establishments should not sell to the peasants those vehicles due to be replaced.

7. We are now entering the stage of a vigorous development of socialist commodity production in both the urban and the rural areas. To stimulate commodity circulation and to promote the development of commodity production, we must firmly uphold the policy of the leading role of planned economy and the supplementary role of market regulation, revise the policies of procurement and marketing, reform the structure of the state sector in commerce, boldly develop cooperative commerce and suitably develop individual commerce. We must place state commerce in the leading position and also permit the coexistence of various forms of commercial economy. The barriers between urban and rural areas and the regional blockades must be removed, while some channels of circulation should be opened.

First, the policies of procurement and marketing for agricultural sideline products have to be revised. It is entirely necessary that the important agricultural sideline products be subject to unified or fixed state purchase. However, there should not be too many such products. In the future, we will continue the system of unified and fixed state purchase for a few important agricultural products, and those peasants who have already fulfilled the quota of state purchases should be permitted to sell what they have left (including grain but not cotton) in different channels. State commerce should actively develop its business in negotiated purchases and sales in accordance with the regulative role of the market. Supply and marketing cooperatives and other cooperative commercial organizations in the countryside can buy and sell flexibly. Individual peasants can also do business in the cities or out of the county or province. The regulation requiring the approval of relevant departments for bringing out agricultural sideline products will be abolished, and the prices of agricultural sideline products which are not subject to state government can be increased or reduced.

Second, when unified or fixed state purchase is necessary for certain commodities in short supply, we generally do not adopt the method of full procurement. Whenever possible, a base quota should be set up and it should remain unchanged for several years so that the producers may enjoy certain rights in disposing of their products. A system of procurement-marketing contracts should be gradually introduced. Once signed, the contract must be strictly observed.

Third, cooperative commerce should be developed. The cooperative commercial organizations already in existence, such as the combined agriculture-

industry-commerce companies, the marketing department of commune- and brigade-run enterprises, the trading warehouses and so forth, have played a positive role in stimulating the rural economy and promoting the exchange of materials between the urban and rural areas. However, they still have some problems, and after the elimination of their defects and retention of their merits, their development should continue.

The nature of cooperative commerce should be restored for the basic-level supply and marketing cooperatives and the spheres of their operation and service should be enlarged so that they will be gradually transformed into comprehensive service centers of supply and marketing, processing, storage, transportation, and technical assistance. The former supply and marketing cooperatives at the county level should become combined economic organizations of basic-level supply and marketing cooperatives. All regions which have not yet conducted experiments in structural reform for the supply and marketing cooperatives should quickly do so, while those which have already conducted these experiments should sum up their experiences and be gradually expanded over whole areas. The departments concerned under the State Council should immediately work out concrete plans for such structural reforms, carefully organize their implementation, and strive to complete this reform on a national scale rapidly and steadfastly.

Fourth, commerce and various service trades run by individuals in the countryside can operate flexibly and are of convenience to the broad masses. They should be properly developed and given every necessary support.

Long-distance peddling by peasants individually or in partnership can help promote the sales of agricultural sideline products and resolve the contradiction of stockpiling at the location of production and shortage on the market. It should be permitted. However, these peasants must go through the procedures of industrial-commercial registration, pay taxes according to law, and sell only the agricultural sideline products remaining after their delivery to the state.

Fifth, state commerce should energetically organize the flow of industrial products to the countryside to meet the peasants' daily increasing needs. At the same time, collective and individual commercial units should be permitted to obtain their goods from wholesale stations. There should be some reasonable difference between wholesale and the retail sales prices so that dealers may make some profit.

Sixth, after the adoption of flexible policies for circulation in the countryside, attention must be paid to education among peasants on the need to respect the interests of the state, the collective, and the individuals and to ensure that the task of state delivery is completed in the required amounts and at the required quality standards. Efforts should also be made to make greater contributions in supporting state construction and ensuring supplies on the market. At the same time, market control should be stepped up and all illegal acts must be resolutely and promptly dealt with. Based on the stipulations of the flexible policies, the departments in charge of industrial and commercial administration and the tax, price,

public security, and communications and transportation departments should work out relevant regulations of control for people to follow.

8. We must continue the technical transformation of agriculture, set up and strengthen the system of popularizing agroscience and agrotechnology and the program of personnel training for rural construction so that China's rural economy can develop more rapidly on the basis of continued improvement in the relations of production and continued advance of technology.

The technical transformation of China's agriculture should have its own special features. While paying attention to the development of the traditional methods of intensive farming, energy conservation, maintenance of ecological balance and other superior qualities, we should also learn modern technologies and advanced management methods for various aspects of rural production and construction. Investment in agriculture should be gradually increased, while fresh research should be conducted and new plans worked out for mechanization in various regions. At present, particular attention should be paid to the development of small, versatile, fine-quality and low-price farm machines, the improvement of irrigation facilities according to local conditions, and the increased supply of chemical fertilizers. We should also improve the proportionate structure of nitrogen, phosphate, and potassium, improve the soil, increase land utilization, raise labor productivity, and quickly develop the production of substitutes for those pesticides that are high in poisonous residue and low in efficiency. There are now pressing needs in farm products processing, in the fodder industry and the communications, posts, and telecommunications trades, and for storage and drying equipment, small hydropower, wind energy, marsh gas, solar energy, and fuel trees, as well as the exploitation of other energy resources; and these needs must be carefully attended to.

We must also carefully organize our resources now being used on agroscientific research, popularization of technology, education, and training, to form a system of rational division of work and harmonious cooperation, and to provide effective services in rural construction. We have made some achievements in scientific research. These achievements must be applied in production on a popular basis. We must organize the advanced regions to help the backward ones and do a good job in the transfer of technology so that the backward regions may rapidly raise their production level. We must also select some scientific research projects of decisive significance to be used in the development of production and organize the necessary resources to attack the key problems. For example, the selection and cultivation of fine strains, the prevention of insect pests, a rational production layout, an ecological balance and so forth, all need new breakthroughs and a systematic accumulation of scientific and technological data.

To meet the upsurge of studying and applying science which has already been whipped up among peasants, all localities must run their state and collective agrotechnological service institutions well, and through contracts for technical work, demonstrational households of science and technology, technical service companies, integrated bodies of production and science, science and technology popularization associations, and so forth, we must spread the

knowledge of agroscience and agrotechnology and scientific and technological achievements, and be able to provide efficient scientific and technical services to the peasants.

Great attention must be paid to the reform of education in the countryside. Compulsory primary education must be actively popularized in order to wipe out illiteracy among the young and the middle-aged, while the ratio of secondary agricultural schools and other vocational schools should be systematically raised. The institutes of higher learning and the secondary vocational schools that are oriented to the countryside should have a new set of regulations for the enrollment of students and distribution of graduates so as to open the avenues for them to go to the countryside. Technical education and training should be conducted for peasants in various forms. Education in the countryside must be geared to, and not diverted from, the needs of peasants to develop production and become wealthy through labor, and their desire for talented people. We must consider and never overlook the special characteristics of the work and the lifestyle of the rural population. For different regions in the country, there should be different demands as well as plans to suit the financial and material conditions of the local people as well as the aptitude of the local students. The departments concerned should quickly work out programs of reform to be conducted step by step.

There are many skilled craftsmen, production experts, intellectual youths, and rehabilitated and retired army men in the countryside. We must make use of their special skills, support them in forming technical service organizations and permit economic organizations of any type in the countryside to employ them. Those who have become educated through self-study and have given fine work performances can be given technical titles after due examination and evaluation. As soon as possible, the state should set up a personnel system under which higher wages will be paid to technicians as an incentive for them to serve in the countryside. Intellectuals living in cities but willing to go to the countryside or to the border and remote regions even for brief periods should also be welcomed. Besides receiving wages, the technicians in the countryside should also be allowed to sign work contracts with economic organizations and to receive a portion of the bonuses for increased output.

9. Sources of funds should be increased to accelerate rural construction. Because of the state's improved financial conditions, we should gradually increase investment in agriculture. However, the limited state investment can only be used on large construction projects which the people are incapable of undertaking, such as key projects of land reclamation, the development of forestry areas and large-scale water conservancy facilities, electric power and telecommunications projects and storage and transportation utilities. Investment in other small farmland capital construction projects and other services will have to come mainly from the accumulated funds and labor of agriculture itself.

To solve the problem of funds, we must first enliven the rural economy. We must be able to generate funds before we can accumulate wealth. At

the same time, the peasants must be taught to understand the reason for "first, feed the people; second, build the country." All cooperative economic organizations should set up the systems of fixed asset depreciation, retention of a portion of the earnings, and the necessary labor investment.

Peasants can be encouraged to undertake some infrastructural facilities in the countryside--such as warehouses, highways and large or small hydropower stations--individually or in partnership, and there should be a system of payment for the use of these facilities. Whoever builds these facilities will be entitled to these fees so that the funds can be recovered and put into circulation. The agricultural banks and credit cooperatives should improve their services in the accumulation of funds, extension of loans, and supervision over their use. The credit cooperatives should truly operate as cooperative financial institutions.

In any type of work requiring civilian resources, we must firmly adhere to the principle of doing only what we are capable of. The mistake of making all-out efforts in the past must not be repeated. We must exercise extreme care in using fewer and better personnel, curtailing expenses, and eliminating waste in order to reduce the peasants' burden.

10. To implement the policy of sparing no effort in promoting grain production and actively developing economic diversification, all undertakings in agriculture, forestry, animal husbandry, sideline production, and fishery must act in accordance with the principle of adapting measures to local conditions, bringing into play the strong points, and suitably concentrating resources in establishing a number of commodity production bases. These bases must have their own major products and a fairly high commodity rate, and be able to offer adequate services in supply and marketing, transportation, processing, storage, and technical assistance as well as infrastructural facilities for energy, communications, posts and telecommunications, and water conservancy. The establishment of large, medium, and small commodity bases, including small townships, must be preceded by prospecting and planning, and be approved by the department in charge before being incorporated into the capital construction plans of the state or the locality.

The products of these bases should be comprehensively utilized locally as much as possible while finished or semifinished products can be transferred to other places. Grain production bases after completing the task of transferring their products to other places can keep the remaining grain to set up food-processing and fodder industries and to develop animal husbandry, thus reaping the economic benefits of putting one product to multiple uses and reducing losses and expenses in transportation.

State commerce, foreign trade and light industry departments and supply and marketing cooperatives should further improve their present commodity production bases. Under the principle of mutual benefits, they should form various types of economic ties or joint ventures with local peasants.

State farms, forestry farms, animal farms, and fishing grounds, as the important commodity production bases of the state, should adopt the system of economic responsibility in their joint agricultural-industrial-commercial operations, and strive to increase commodity output, improve commodity quality, and make even greater contributions.

11. At present, the production level in some border and remote regions and minority nationality regions is still very low, and the people there have many difficulties in livelihood. We must show them great concern and step up our work to end their poverty.

The policies to be adopted should be more flexible toward these regions than toward others. In production, we should take advantage of their superior local resources and make effective use of state finance for their support. We should help them develop economic diversification, give them work instead of charity, and change the method of purely relief work. Attention should be paid to the improvement of transportation conditions, the solution of energy problems, the prevention of endemic disease and the management of schools.

Meticulous investigations and study should be conducted on the herding areas so as to perfect the various economic policies on production and circulation.

12. Excessive felling of trees, reduction of farmland, and increase in population are the three major hidden dangers in China's countryside. Despite the excellent current situation, we should nevertheless have a sober mind and take strong measures in dealing with them seriously. First, we must check the evil practice of indiscriminate felling and of encroaching on farmland, and strictly control the birth rate. At the same time, we should step up our investigations and study in order to solve the problems of structure, policies and legislation in a systematic way.

All the forestry policies must be conscientiously implemented and the broad masses must be mobilized to plant trees, to protect forests, to put a green covering over the motherland, to increase the vegetation cover, and to set up an ecological safeguard. The private plots of hilly land should be appropriately enlarged, and active support should be given to the households specializing in nursing saplings and planting trees, so that the forestry farms of the state and the collectives may be managed efficiently. It should be clearly announced that whoever plants the trees will own them, and that his ownership rights may be inherited by his offspring.

When the peasants have gradually become wealthy, it would be a good thing to improve their housing conditions. However, their housing must be carefully planned, and the use of farmland for housing purposes must be strictly controlled. The people must be so educated that they will always be aware of the fact that China has a large population but little land, and of the need to cherish every inch of farmland. Housing accommodation should be compactly laid out, reasonably roomy, practical and clean, and cannot be too spacious. Construction projects in villages and market towns must not be allowed to drag on. We must first conduct full investigation and study and then work out an overall plan to be approved by the urban and rural

construction department and the people's county government before proceeding with the construction.

Family planning has a bearing on economic development as well as national prosperity, and efforts in this direction cannot be relaxed under any pretext. After investigation and study, we should further improve our policies to enhance people's willingness and eagerness about family planning. We should also improve our work methods, strengthen our publicity work and education, and avoid the use of coercive means. Harmful acts to female infants or their mothers are strictly prohibited.

To solve these three problems, we must stress the need for party members and cadres to take the lead in implementing the policies in an exemplary manner, and to check any unhealthy tendency. The county party committee and the people's county government should take their responsibilities seriously, and for the cadres below the county level, there should also be a distinctive responsibility system.

13. In rural work, the party must firmly adhere to the principle of building a socialist civilization both materially and spiritually, so that both the material and the ideological-political lives in the countryside will continue to be enriched. It must be pointed out that although good economic work in all respects will give an impetus to the development of ideological-political work, the former can never be a substitute for the latter. Ideological-political work must be strengthened before the healthy development of various rural reforms can be ensured. All localities must follow the relevant directives soon to be issued by the party Central Committee, carry forward the fine traditions, and infuse the party's political ideas into all activities of reform and production so as to ensure their progress.

The cultural and public health facilities in the countryside must be strengthened, and the peasants should be encouraged to support them regardless of their state or collective status.

Through written pledges drawn up by the rural residents, civilized villages and civilized households should be formed. To preserve social order, the organizations for the preservation of peace and for mediation in civil disputes should be strengthened. Unhealthy trends and unlawful acts must be opposed and stopped, and harmony should be fostered in the villages and families so as to improve social conduct and start a new socialist custom.

14. The cadres should be systematically trained so that their quality may be improved along with the improvement and strengthening of party leadership.

Although we have made some progress in building socialist agriculture with typical Chinese characteristics, we are, on the whole, still in the stage of exploration. During this period of historical changes, various types of old ideas and old habits usually prevent people from recognizing

the new situation and accepting innovations, resulting in the loss of opportunities and causing damage. Therefore, the leadership at various levels must first pay attention to the ideological education of cadres. Through systematic training, organized investigations, summation of experiences, and party rectification, we can help them further emancipate their minds, widen their fields of vision, continue to eradicate the "leftist" ideological influence, break down the old conventions that restrict the development of productive forces, and take a correct attitude toward new phenomena. At the same time, in making concrete policy decisions, we must seek truth from facts, strive for reliability, and combine the strict observance of principles with their flexible application. If there is anything we do not understand, we have to learn about it from the people, from the experts, and from experiences. In handling important matters, we must investigate and conduct experiments. If the majority of people want to get something done and we cannot do it, we should take up the matter seriously and do the best we can. We must at all times respect the masses' initiative, mix with the broad masses, and provide the necessary guidance according to local conditions.

Along with the development of commodity production and the enlargement of the market, the cadres of all relevant departments should acquire the skill of using economic methods, expand their sphere of work, improve their service quality, get the peasants organized and bring into play the role of planned guidance.

The relevant departments of party committee and government at all levels have in the past several years stepped up their systematic investigations and study and supplied scientific data for the party to formulate rural policies. They have done a great deal of work in coordinating the activities of various trades and undertakings. During the structural reform, attention should be paid to the continuity of work. The necessary personnel must be kept to avoid any lapse in the work.

We should also be concerned with the training of the present cadres. We must encourage them to be active in work, and should not be overmeticulous in the choice of personnel. The cadres to be chosen should be young or middle-aged, and should have certain practical experience and scientific knowledge. Then a contingent of cadres suitable for agricultural modernization can be formed.

Legislation should be strengthened. It is suggested that all state organs should strengthen their control by law over all economic sectors and their activities in the countryside and that new laws must be enacted accordingly. At the same time, all the relevant decrees and statutes of the past should be reviewed one by one, so that we can decide on their retention or abolition according to their merits or shortcomings. All new laws should be publicized in suitable forms so that people can abide by them or be punished for their violation.

The sustained increase in our agricultural output and the continued rise of peasants' socialist enthusiasm have proved the correctness of the party's rural policies. Now that the 12th CPC Congress has laid down the grand objective, the party Central Committee firmly believes that all the party organizations and cadres can certainly complete their glorious task in an outstanding manner and that the day of all-round development of our rural economy will soon arrive.

Statistics of Agricultural Economy (1982)

Agricultural Population, Organization of Production

National Population and Status of Organization of Rural People's Communes

	Unit	1982	1981	Increase or decrease in 1982 compared with 1981
I. Population	10,000 persons	101,117.2	99,622.2	1,495.0
Of which:				
Agricultural population	"	83,630.8	82,658.8	972.0
Nonagricultural population	"	17,486.4	16,963.4	523.0
II. Rural people's communes	Each	54,352	54,377	-24
Production brigades	"	719,438	718,020	1,418
Production team	10,000 persons	597.7	600.4	-2.7
III. Number of households in rural people's communes	"	18,278.6	18,016.1	262.5
IV. Population of rural people's communes	"	82,798.8	81,880.6	918.2
V. Work force (individuals) in rural people's communes	"	33,866.5	32,672.1	1,194.4
Of which:				
Work force in agriculture, forestry, animal husbandry	"	31,152.7	30,677.6	475.1
Sideline production and fishery	"	878.7	882.7	-4
Work force of commune-run industry	"	417.2	445.8	-28.6
Workers temporarily away from their own localities	"	15,349.1	14,832.7	516.4

Draft supplied by Planning Department of Ministry of Agriculture, Animal Husbandry and Fishery

Agriculture

GVAO in Provinces, Municipalities, and Autonomous Regions (based on 1982 prices)

Unit: 100 million yuan

Region	GVAO	Agri-cultural output value (crop farming)	Forestry output value	Animal husbandry output value	Fishery output value	Sideline production output value	In sideline production: industry output value of brigade-run industry
National total	2,781.84	1,747.14	110.04	455.59	51.22	420.85	304.47
Beijing	23.17	10.85	0.69	4.65	0.05	6.93	6.42
Tianjin	22.60	9.05	0.12	1.90	0.38	11.15	10.04
Heibei	140.39	92.40	3.72	17.82	0.75	25.70	18.81
Shanxi	64.27	40.80	3.57	6.48	0.01	13.41	11.41
Nei Monggol	49.85	27.48	3.14	13.14	0.15	5.94	4.35
Liaoning	99.41	56.44	3.37	18.89	3.10	17.61	14.05
Jilin	65.06	44.99	2.54	9.61	0.27	7.65	4.48
Heilongjiang	100.07	68.01	5.91	16.82	0.47	8.86	5.72
Shanghai	38.61	13.80	0.23	7.81	1.16	15.61	14.86
Jiangsu	238.86	143.33	1.96	35.75	4.65	53.17	50.75
Zhejiang	144.72	77.97	4.43	22.83	6.13	33.36	26.58
Anhui	135.74	101.10	2.56	20.02	1.57	10.49	6.75
Fujian	71.88	38.33	4.90	10.37	5.71	12.57	8.15
Jiangxi	90.64	56.62	5.64	12.72	1.33	14.33	6.70
Shandong	248.83	167.98	7.22	34.13	5.59	33.91	30.31
Henan	173.69	117.17	3.75	18.25	0.35	34.17	22.62
Hubei	139.30	95.20	7.36	17.97	2.12	16.65	10.95
Hunan	154.08	97.96	7.51	28.66	3.56	16.39	7.66
Guangdong	173.01	92.52	14.88	34.03	10.76	20.82	12.70
Guangxi	92.19	52.43	5.20	22.27	1.51	10.78	3.96
Sichuan	242.96	160.64	8.47	50.49	1.16	22.20	13.50
Guizhou	52.95	33.24	2.49	9.93	0.11	7.18	1.46
Yunnan	65.77	41.90	3.86	12.79	0.21	7.01	3.93
Xizang	6.13	2.68	0.09	2.69	...	0.67	
Shaanxi	61.45	43.37	3.05	8.00	0.03	7.00	4.55
Gansu	32.10	22.47	1.69	5.37	...	2.57	1.57
Qinghai	8.80	5.03	0.08	3.10	0.01	0.58	0.42
Ningxia	8.30	6.17	0.34	1.02	0.01	0.76	0.52
Xinjiang	40.01	27.21	1.27	8.08	0.07	3.38	1.25

Composition of GVAO of Various Provinces, Municipalities, and Autonomous Regions (based on 1982 prices and as percentage of GVAO)

Region	Output value					
	Agricul-ture (crop farming)	Forestry	Animal husbandry	Fishery	Sideline production	In sideline production: brigade-run industry
National total	62.7	4.0	16.4	1.8	15.1	10.9
Beijing	46.8	3.0	20.1	0.2	29.9	27.7
Tianjin	40.1	0.5	8.4	1.7	49.3	44.4
Hebei	65.8	2.7	12.7	0.5	18.3	13.4
Shanxi	63.5	5.5	10.1	...	20.9	17.8
Nei Monggol	55.1	6.3	26.4	0.3	11.9	8.7
Liaoning	56.8	3.4	19.0	3.1	17.7	14.1
Jilin	69.1	3.9	14.8	0.4	11.8	6.9
Heilongjiang	68.0	5.9	16.8	0.5	8.8	5.7
Shanghai	37.8	0.6	20.2	3.0	40.4	38.5
Jiangsu	60.0	0.8	15.0	1.9	22.3	21.2
Zhejiang	53.9	3.1	15.8	4.2	23.0	18.4
Anhui	74.5	1.9	14.7	1.2	7.7	5.0
Fujian	53.3	6.8	14.4	8.0	17.5	11.3
Jiangxi	62.5	6.2	14.0	1.5	15.8	7.4
Shandong	67.5	2.9	13.7	2.3	13.6	12.2
Henan	67.5	2.1	10.5	0.2	19.7	13.0
Hubei	68.3	5.3	12.9	1.5	12.0	7.9
Hunan	63.6	4.9	18.6	2.3	10.6	5.0
Guangdong	53.5	8.6	19.7	6.2	12.0	7.3
Guangxi	56.9	5.6	24.2	1.6	11.7	4.3
Sichuan	66.1	3.5	20.8	0.5	9.1	5.6
Guizhou	62.8	4.7	18.7	0.2	13.6	2.8
Yunnan	63.7	5.9	19.4	0.3	10.7	6.0
Xizang	43.7	1.5	43.9	...	10.9	
Shaanxi	70.6	5.0	13.0	...	11.4	7.4
Gansu	70.0	5.3	16.7	...	8.0	4.9
Qinghai	57.2	0.9	35.2	0.1	6.6	4.8
Ningxia	74.3	4.1	12.3	0.1	9.2	6.3
Xinjiang	68.0	3.2	20.2	0.2	8.4	3.1

Indicators of Increase and Decrease in National GVAO (based on 1980 constant prices)

	1982 (100 million yuan)	1981 (100 million yuan)	Increase or decrease in 1982 compared with 1981	
			Absolute figure (100 million yuan)	Percent
GVAO	2,629.2	2,369.2	260.0	11.0
Agricultural output value	1,649.9	1,498.3	151.6	10.1
Forestry output value	106.8	98.4	8.4	8.5
Animal husbandry output value	407.0	359.6	47.4	13.2
Fishery output value	45.5	40.5	5.0	12.3
Sideline production output value of which: brigade-run industry	420.0 304.2	372.4 277.8	47.6 26.4	12.8 9.5

GVAO of Various Provinces, Municipalities, and Autonomous Regions (based on 1980 constant prices)

Unit: 100 million yuan

Region	GVAO	Gross Value					In sideline production: Brigade-run industry
		Agriculture (crop farming)	Forestry	Animal husbandry	Fishery	Sideline production	
National total	2,629.15	1,649.91	106.81	406.98	45.44	420.01	304.22
Beijing	20.94	8.82	0.46	4.62	0.05	6.99	6.48
Tianjin	21.10	6.37	0.09	1.73	0.32	12.59	11.47
Hebei	135.30	88.37	3.85	17.01	0.70	25.37	18.75
Shanxi	63.63	38.00	3.46	6.11	0.01	16.05	13.94
Nei Monggol	48.49	26.44	3.37	12.73	0.17	5.78	2.56
Liaoning	90.35	49.58	3.36	16.53	3.60	17.28	14.03
Jilin	60.65	41.30	3.10	8.52	0.19	7.54	4.43
Heilongjiang	95.71	67.59	5.88	13.32	0.43	8.49	5.72
Shanghai	38.66	14.34	0.13	6.93	1.65	15.61	14.86
Jiangsu	234.02	138.60	2.13	34.86	5.05	53.38	50.96
Zhejiang	137.60	73.99	3.71	21.28	6.48	32.14	26.62
Anhui	124.62	93.85	2.63	17.03	1.29	9.82	6.42
Fujian	62.36	34.73	4.51	7.34	3.94	11.84	7.75
Jiangxi	87.11	54.18	4.85	11.87	1.21	15.00	6.19
Shandong	225.92	150.86	5.32	30.37	5.63	33.74	30.31
Henan	168.24	113.31	3.42	17.95	0.40	33.16	22.25
Hubei	137.20	93.77	6.16	17.85	2.14	17.28	10.95
Hunan	147.27	95.95	6.45	26.26	2.46	16.15	7.66
Guangdong	142.81	79.97	13.54	21.28	7.23	20.79	12.20
Guangxi	85.07	52.32	5.18	15.12	1.25	11.20	3.96
Sichuan	233.20	151.88	10.89	48.17	0.83	21.43	12.99
Guizhou	49.41	30.66	2.46	8.79	0.07	7.43	1.46
Yunnan	65.20	40.51	4.76	12.76	0.21	6.96	3.93
Xizang	6.20	2.05	0.10	3.39		0.66	
Shaanxi	62.73	44.32	3.54	8.00	0.03	6.84	4.55
Gansu	32.01	22.18	1.67	5.59		2.57	1.57
Qinghai	8.78	4.39	0.19	3.62	0.01	0.57	0.44
Ningxia	7.66	5.54	0.39	0.96	0.01	0.76	0.52
Xinjiang	36.91	26.04	1.21	6.99	0.08	2.59	1.25

Composition of GVAO of Various Provinces, Municipalities, and Autonomous Regions (based on 1980 constant prices and as percentage of GVAO)

Region	Agricul-tural output (farm cropping)	Forestry output	Animal husbandry output	Fishery output	Sideline production output ²	In sideline production: Output value of brigade-run industry
National total	62.7	4.1	15.5	1.7	16.0	11.6
Beijing	42.1	2.2	22.1	0.2	33.4	30.9
Tianjin	30.2	0.4	8.2	1.5	59.7	54.4
Hebei	65.3	2.8	12.6	0.5	18.8	13.9
Shanxi	59.7	5.5	9.6		25.2	21.9
Nei Monggol	54.5	6.9	26.3	0.4	11.9	5.3
Liaoning	54.9	3.7	18.3	4.0	19.1	15.5
Jilin	68.1	5.1	14.1	0.3	12.4	7.3
Heilongjiang	70.6	6.1	13.9	0.5	8.9	6.0
Shanghai	37.1	0.3	17.9	4.3	40.4	38.4
Jiangsu	59.2	0.9	14.9	2.2	22.8	21.8
Zhejiang	53.8	2.7	15.5	4.7	23.3	19.3
Anhui	75.3	2.1	13.7	1.0	7.9	5.2
Fujian	55.7	7.2	11.8	6.3	19.0	12.4
Jiangxi	62.2	5.6	13.6	1.4	17.2	7.1
Shandong	66.8	2.4	13.4	2.5	14.9	13.4
Henan	67.4	2.0	10.7	0.2	19.7	13.2
Hubei	68.3	4.5	13.0	1.6	12.6	8.0
Hunan	65.1	4.4	17.8	1.7	11.0	5.2
Guangdong	56.0	9.5	14.9	5.1	14.5	8.5
Guangxi	61.5	6.1	17.8	1.4	13.2	4.7
Sichuan	65.1	4.7	20.7	0.3	9.2	5.6
Guizhou	62.1	5.0	17.8	0.1	15.0	3.0
Yunnan	62.1	7.3	19.6	0.3	10.7	6.0
Xizang	33.1	1.6	54.7		10.6	
Shaanxi	70.7	5.6	12.8		10.9	7.3
Gansu	69.3	5.2	17.5		8.0	4.9
Qinghai	50.0	2.2	41.2	0.1	6.5	5.0
Ningxia	72.3	5.1	12.6	0.1	9.9	6.8
Xinjiang	70.6	3.3	18.9	0.2	7.0	3.4

GVAO and Indices for Such Output in Various Provinces, Municipalities, and Autonomous Regions (based on 1980 constant prices)

Unit: 100 million yuan

Region	1982	1981	1980	1982 as percentage of 1981	1982 as percentage of 1980
National total	2,629.15	2,369.19	2,222.95	111.0	106.6
Beijing	20.94	18.44	17.75	113.6	103.9
Tianjin	21.10	19.51	17.40	108.1	112.1
Hebei	135.30	118.12	114.58	114.5	103.1
Shanxi	63.63	53.69	51.70	118.5	103.8
Nei Monggol	48.49	41.80	35.37	116.0	118.2
Liaoning	90.35	85.30	81.77	105.9	104.3
Jilin	60.65	57.47	53.65	105.5	107.1
Heilongjiang	95.71	91.73	91.59	104.3	100.2
Shanghai	38.66	34.03	30.19	113.6	112.7
Jiangsu	234.02	208.06	191.90	112.5	108.4
Zhejiang	137.60	119.15	112.93	115.5	105.5
Anhui	124.62	116.94	93.80	106.6	124.7
Fujian	62.36	58.34	54.91	106.9	106.2
Jiangxi	87.11	79.04	74.85	110.2	105.6
Shandong	225.92	203.46	194.14	111.0	104.8
Henan	168.24	167.60	155.83	100.4	107.6
Hubei	137.20	119.65	110.31	114.7	108.5
Hunan	147.27	132.76	125.64	110.9	105.7
Guangdong	142.81	123.07	114.45	116.0	107.5
Guangxi	85.07	73.31	69.23	116.0	105.9
Sichuan	233.20	211.35	204.91	110.3	103.1
Guizhou	49.41	41.34	39.03	119.5	105.9
Yunnan	65.20	59.16	53.84	110.2	109.9
Xizang	6.20	6.24	5.77	99.4	108.1
Shaanxi	62.73	50.87	50.02	123.3	101.7
Gansu	32.01	28.54	30.52	112.2	93.5
Qinghai	8.78	8.15	8.71	107.7	93.6
Ningxia	7.66	7.60	7.20	100.8	105.6
Xinjiang	36.91	34.47	30.96	107.1	111.3

Area Sown and Multiple-Cropping Indices for Farm Crops in Various Provinces, Municipalities, and Autonomous Regions

Unit: 10,000 mu

Region	Total sown area for agricultural crops	Grain crops	Cash crops	Other agricultural crops	Percentage of total sown area			Multiple cropping indices
					Grain crops	Cash crops	Other agricultural crops	
National total	1217.031.8	170,093.5	28,190.6	18,747.7	78.4	13.0	8.6	146.7
Beijing	962.9	791.0	43.3	128.6	82.1	4.5	13.4	151.5
Tianjin	914.9	751.7	79.9	83.3	82.2	8.7	9.1	132.3
Hebei	12,902.5	10,390.4	1,855.7	656.4	80.5	14.4	5.1	129.5
Shanxi	6,161.3	5,033.0	761.0	367.3	81.7	12.3	6.0	105.9
Nei Monggol	6,961.8	5,765.0	872.6	324.2	82.8	12.5	4.7	90.8
Liaoning	5,679.4	4,718.8	516.3	444.3	83.1	9.1	7.8	103.3
Jilin	6,098.4	5,332.8	457.4	308.2	87.4	7.5	5.1	100.4
Heilongjiang	12,718.3	10,634.2	1,044.5	1,039.6	83.6	8.2	8.2	97.2
Shanghai	1,138.6	674.0	277.3	187.3	59.2	24.4	16.4	215.8
Jiangsu	12,938.4	9,580.9	1,842.9	1,514.6	74.1	14.2	11.7	186.2
Zhejiang	6,938.7	5,156.1	624.2	1,158.4	74.3	9.0	16.7	254.5
Anhui	12,010.1	9,049.1	2,096.1	864.9	75.3	17.5	7.2	180.4
Fujian	3,704.2	3,125.3	349.8	229.1	84.4	9.4	6.2	192.3
Jiangxi	8,294.6	5,615.9	797.2	1,881.5	67.7	9.6	22.7	231.7
Shandong	15,469.9	11,527.8	3,325.8	616.3	74.5	21.5	4.0	143.2
Henan	16,613.9	13,385.0	2,685.1	543.8	80.6	16.1	3.3	155.8
Hubei	11,191.0	7,868.6	1,830.3	1,492.1	70.3	16.4	13.3	200.7
Hunan	11,951.4	8,105.0	1,123.4	2,726.0	67.8	9.4	22.8	233.2
Guangdong	9,599.9	7,529.9	1,511.1	558.9	78.4	15.8	5.8	202.6
Guangxi	7,215.5	5,909.7	867.4	438.4	81.9	12.0	6.1	182.8
Sichuan	18,197.6	15,247.9	1,765.7	1,184.0	83.8	9.7	6.5	184.8
Guizhou	4,399.6	3,125.9	735.2	238.5	77.9	16.7	5.4	154.1
Yunnan	5,952.7	5,210.8	498.7	243.2	87.5	8.4	4.1	139.5
Xizang	327.8	295.3	18.2	14.3	90.1	5.5	4.4	96.0
Shaanxi	7,107.0	6,036.4	684.5	386.1	85.0	9.6	5.4	125.5
Gansu	5,116.3	4,266.0	393.2	457.1	83.4	7.7	8.9	95.7
Qinghai	758.4	612.6	116.9	28.9	80.8	15.4	3.8	86.9
Ningxia	1,209.9	1,001.8	126.8	81.3	82.8	10.5	6.7	93.4
Xinjiang	4,493.8	3,052.6	890.1	551.1	67.9	19.8	12.3	94.0

Draft supplied by Planning Department of Ministry of Agriculture, Animal Husbandry and Fishery

Area Sown and Output of Major Agricultural Crops in Various Provinces,
Municipalities, and Autonomous Regions

Area: 10,000 mu

Unit: Per-mu output: jin

Total output: 100 million jin

Region	I. Grain (including soybean)			Included in grain total: summer- harvest grain			I. Rice		
	Sown area	Total out- put	Per-mu output (based on sown area)	Sown area	Total output	Per-mu output	Sown area	Total output	Per-mu output
National total	170,093.5	7,068.5	416	44,411.1	1,465.1	330	49,584.2	3,224.9	650
Beijing	791.0	37.1	469	300.4	10.3	344	62.1	4.5	727
Tianjin	751.7	24.5	326	215.1	3.8	177	34.6	2.2	623
Hebei	10,390.4	350.4	327	3,408.5	90.7	266	191.5	15.2	795
Shanxi	5,033.0	165.0	311	1,547.1	43.0	278	14.5	1.2	828
Nei Monggol	5,765.0	106.0	178	—	—	—	23.7	0.9	386
Liaoning	4,718.8	230.4	488	61.0	1.3	213	608.4	50.7	834
Jilin	5,332.8	200.0	375	—	—	—	390.6	28.9	741
Heilongjiang	10,634.2	230.0	216	—	—	—	358.9	14.2	395
Shanghai	674.0	43.2	641	212.6	10.3	483	423.9	30.3	715
Jiangsu	9,580.9	571.1	596	4,011.4	202.0	504	3,752.1	287.5	766
Zhejiang	5,156.1	342.5	664	978.9	35.8	366	3,749.9	284.8	759
Anhui	9,049.1	386.6	427	3,130.4	115.9	370	3,168.2	208.7	659
Fujian	3,125.3	169.6	543	220.3	6.1	275	2,419.8	143.2	592
Jiangxi	5,615.9	281.7	502	183.0	2.6	143	5,009.2	269.3	538
Shandong	11,527.8	475.0	412	5,028.2	165.3	329	149.3	10.1	677
Henan	13,385.0	443.4	331	6,386.5	249.6	391	592.9	35.0	591
Hubei	7,868.6	399.2	507	2,675.8	88.8	332	3,907.7	270.7	693
Hunan	8,105.0	475.0	586	480.4	9.0	187	6,585.1	436.0	662
Guangdong	7,529.9	388.6	516	535.5	12.9	240	6,006.9	348.9	581
Guangxi	5,909.7	270.6	458	96.4	1.2	125	4,159.5	234.9	565
Sichuan	15,247.9	746.9	490	4,851.5	162.1	334	4,685.8	354.1	756
Guizhou	3,125.9	130.8	382	735.5	11.5	157	1,172.5	70.0	597
Yunnan	5,210.8	189.2	363	1,240.8	22.3	180	1,655.4	92.8	560
Xizang	295.3	9.0	305	—	—	—	0.9	...	495
Shaanxi	6,036.4	185.0	306	2,808.7	91.1	324	237.8	15.9	669
Gansu	4,266.0	93.8	220	2,769.5	69.8	252	5.7	0.3	526
Qinghai	612.6	18.5	303	—	—	—	—	—	—
Ningxia	1,001.8	23.9	238	512.4	12.8	249	75.5	7.9	1,042
Xinjiang	3,052.6	81.5	267	2,021.2	46.9	232	141.8	6.5	458

[Continuation of Area Sown and Output of Major Agricultural Crops in Various Provinces, Municipalities, and Autonomous Regions]

Region	Early rice			Middle rice and one-season late rice			Double-season rice		
	Sown area	Total output	Per-mu output	Sown area	Total output	Per-mu output	Sown area	Total output	Per-mu output
National total	15,769.3	1,061.2	673	15,022.5	1,073.7	715	15,904.3	896.3	564
Beijing	—	—	—	—	—	—	—	—	—
Tianjin	—	—	—	—	—	—	—	—	—
Hebei	—	—	—	—	—	—	—	—	—
Shanxi	—	—	—	—	—	—	—	—	—
Nei Monggol	—	—	—	—	—	—	—	—	—
Liaoning	—	—	—	—	—	—	—	—	—
Jilin	—	—	—	—	—	—	—	—	—
Heilongjiang	—	—	—	—	—	—	—	—	—
Shanghai	159.1	11.4	718	50.8	4.1	809	214.0	14.8	690
Jiangsu	474.1	33.5	707	2,782.8	228.2	820	495.2	25.8	520
Zhejiang	1,704.8	136.2	799	238.4	18.5	776	1,806.7	130.1	720
Anhui	1,113.7	84.5	759	1,237.4	86.8	701	817.1	37.4	458
Fujian	1,006.5	59.4	590	422.0	24.6	582	991.3	59.2	597
Jiangxi	2,427.7	141.8	584	444.8	25.2	568	2,136.7	102.3	479
Shandong	—	—	—	—	—	—	—	—	—
Henan	—	—	—	—	—	—	—	—	—
Hubei	1,145.0	89.7	784	1,537.9	118.4	770	1,224.8	62.6	511
Hunan	2,806.4	205.0	730	784.7	53.1	677	2,994.0	177.1	594
Guangdong	2,847.5	171.7	603	75.4	3.6	481	3,084.0	173.6	563
Guangxi	1,877.0	114.5	610	312.5	15.0	480	1,970.0	105.4	535
Sichuan	133.0	8.8	665	4,427.1	340.4	769	125.7	4.9	390
Guizhou	2.4	0.1	492	1,165.9	69.7	598	4.3	0.2	426
Yunnan	72.1	4.6	638	1,542.8	86.1	557	40.5	2.1	519
Xizang	—	—	—	—	—	—	—	—	—
Shaanxi	—	—	—	—	—	—	—	—	—
Gansu	—	—	—	—	—	—	—	—	—
Qinghai	—	—	—	—	—	—	—	—	—
Ningxia	—	—	—	—	—	—	—	—	—
Xinjiang	—	—	—	—	—	—	—	—	—

[Continuation of Area Sown and Output of Major Agricultural Crops in Various Provinces, Municipalities, and Autonomous Regions]

Region	North rice			2. Wheat			Of which: Spring wheat		
	Sown area	Total output	Per-mu output	Sown area	Total output	Per-mu output	Sown area	Total output	Per-mu output
National total	2,888.1	193.7	670	41,911.9	1,368.4	326	7,124.8	165.0	232
Beijing	62.1	4.5	727	270.9	9.5	352	4.6	0.1	223
Tianjin	34.6	2.2	623	212.1	3.8	178	18.1	0.3	157
Hebei	191.5	15.2	795	3,364.7	89.5	266	30.0	0.9	309
Shanxi	14.5	1.2	828	1,392.0	40.6	292	47.1	0.9	187
Nei Monggol	23.7	0.9	386	1,316.9	25.3	192	1,316.9	25.3	192
Liaoning	608.4	50.7	834	44.3	1.0	226	26.1	0.5	210
Jilin	390.6	29.0	741	157.6	3.1	199	157.6	3.1	199
Heilongjiang	358.8	14.2	395	2,856.5	55.6	195	2,856.5	55.6	195
Shanghai	—	—	—	63.9	3.6	559	—	—	—
Jiangsu	—	—	—	2,800.3	141.9	507	—	—	—
Zhejiang	—	—	—	520.6	19.4	373	—	—	—
Anhui	—	—	—	2,951.8	110.8	375	—	—	—
Fujian	—	—	—	170.8	4.7	276	—	—	—
Jiangxi	—	—	—	156.0	2.3	148	—	—	—
Shandong	149.3	10.1	677	5,014.8	164.8	329	4.5	0.1	154
Henan	592.9	35.0	591	6,179.9	244.0	395	—	—	—
Hubei	—	—	—	2,012.7	71.6	356	—	—	—
Hunan	—	—	—	324.2	6.5	200	—	—	—
Guangdong	—	—	—	148.1	3.3	223	—	—	—
Guangxi	—	—	—	31.5	0.4	127	—	—	—
Sichuan	—	—	—	3,388.5	127.2	376	—	—	—
Guizhou	—	—	—	385.4	6.0	157	—	—	—
Yunnan	—	—	—	701.3	13.5	192	—	—	—
Xizang	0.9	0.1	495	64.5	2.2	341	64.5	2.2	341
Shaanxi	237.8	15.9	669	2,423.7	84.2	347	11.5	0.2	174
Gansu	5.7	0.3	526	2,195.1	62.1	283	1,092.0	35.2	322
Qinghai	—	—	—	336.1	12.6	375	336.1	12.6	375
Ningxia	75.5	7.9	1,042	433.5	12.3	284	352.8	11.6	328
Xinjiang	141.8	6.5	458	1,994.2	46.6	234	806.5	16.4	203

[Continuation of Area Sown and Output of Major Agricultural Crops in Various Provinces, Municipalities, and Autonomous Regions]

Region	3. Tubers			Of which: potato			4. Maize		
	Sown area	Total output	Per-mu output	Sown area	Total output	Per-mu output	Sown area	Total output	Per-mu output
National total	14,044.3	533.6	380	3,681.6	95.3	259	27,763.2	1,205.9	434
Beijing	10.0	0.3	343	0.9	—	296	295.2	17.7	600
Tianjin	13.5	0.6	468	—	—	—	283.3	13.6	480
Hebei	661.5	26.5	400	157.2	4.2	269	3,110.0	145.0	466
Shanxi	379.3	12.1	327	323.5	10.0	309	891.3	44.7	502
Nei Monggol	364.1	8.3	229	363.7	8.3	228	757.0	21.2	280
Liaoning	61.6	1.9	308	16.7	0.4	215	1,733.3	111.6	644
Jilin	139.4	4.3	308	133.6	4.1	307	2,408.2	117.9	490
Heilongjiang	338.6	8.7	255	338.6	8.7	255	2,045.1	65.6	321
Shanghai	0.2	0.1	—	—	—	—	10.3	0.8	807
Jiangsu	489.0	30.4	621	—	—	—	725.0	38.9	537
Zhejiang	233.3	15.7	673	29.3	0.9	307	94.5	3.7	392
Anhui	1,024.4	39.3	383	—	—	—	184.0	5.5	297
Fujian	356.6	18.3	514	0.1	—	230	2.2	—	118
Jiangxi	162.9	5.9	362	—	—	—	10.7	0.2	196
Shandong	1,621.4	98.9	610	—	—	—	3,250.8	169.6	522
Henan	1,348.9	43.7	324	—	—	—	2,397.6	87.3	364
Hubei	564.8	21.4	379	272.3	8.9	327	642.1	21.7	337
Hunan	481.5	20.1	417	36.7	1.0	266	179.5	3.8	212
Guangdong	935.6	30.4	325	13.2	0.3	258	62.5	1.4	218
Guangxi	344.5	5.4	157	—	—	—	819.7	24.4	298
Sichuan	2,804.4	101.7	363	719.0	20.7	288	2,649.9	122.5	463
Guizhou	408.5	10.2	250	270.9	5.4	199	1,001.2	38.7	386
Yunnan	334.4	11.2	335	250.2	9.2	368	1,572.4	55.6	354
Xizang	0.5	...	188	—	—	—	2.7	0.1	370
Shaanxi	471.3	10.8	229	324.5	6.5	200	1,481.6	56.5	381
Gansu	374.4	5.4	143	374.4	5.4	143	400.2	12.2	305
Qinghai	40.9	0.9	211	40.9	0.9	211	—	—	—
Ningxia	62.9	0.4	53	—	—	—	30.6	1.1	374
Xinjiang	15.9	0.4	252	15.9	0.4	252	722.3	24.6	341

[Continuation of Area Sown and Output of Major Agricultural Crops in Various Provinces, Municipalities, and Autonomous Regions]

Region	5. Gaoliang			6. Millet			7. Other miscellaneous grain		
	Sown area	Total output	Per-mu output	Sown area	Total output	Per-mu output	Sown area	Total output	Per-mu output
National total	4,175.0	139.4	334	6,058.0	131.6	217	13,935.4	284.3	204
Beijing	22.6	1.0	431	19.5	0.6	286	96.8	3.2	329
Tianjin	90.7	2.6	287	15.9	0.4	269	66.8	0.8	120
Hebei	514.3	16.9	329	1,050.0	31.5	300	1,089.7	19.8	182
Shanxi	347.6	19.3	555	814.5	25.8	317	954.6	17.5	183
Nei Monggol	321.3	7.1	221	855.1	14.2	166	1,773.5	24.1	136
Liaoning	968.3	45.2	467	408.6	5.9	143	206.7	2.5	121
Jilin	469.6	12.5	266	628.3	13.3	212	258.6	5.7	217
Heilong-jiang	434.9	10.8	249	1,083.9	17.5	162	313.0	5.5	177
Shanghai	0.1	...	430	—	—	—	172.9	8.3	476
Jiangsu	23.7	0.9	350	0.2	...	291	1,282.9	61.8	482
Zhejiang	—	—	—	—	—	—	446.4	16.3	365
Anhui	139.7	1.9	134	7.3	0.1	169	401.6	7.8	199
Fujian	2.0	0.1	452	0.3	...	90	49.5	1.2	242
Jiangxi	1.1	...	311	2.7	0.1	178	64.0	0.8	132
Shandong	219.4	5.2	237	225.3	8.0	368	139.2	3.7	259
Henan	204.3	2.7	132	401.6	7.7	191	541.8	8.1	150
Hubei	19.5	0.6	292	12.5	0.3	232	465.8	9.7	209
Hunan	15.2	0.3	194	—	—	—	273.3	4.2	154
Guangdong	2.0	...	99	4.4	0.1	227	140.0	1.6	114
Guangxi	2.9	...	90	7.4	0.1	135	134.5	1.1	82
Sichuan	137.3	6.0	434	—	—	—	1,325.6	30.2	227
Guizhou	13.8	0.3	181	11.9	0.2	129	251.1	3.4	135
Yunnan	6.9	0.1	145	—	—	—	858.7	14.3	167
Xizang	—	—	—	—	—	—	226.6	6.7	292
Shaanxi	98.3	2.7	275	309.7	4.2	136	724.4	8.0	110
Gansu	53.5	1.1	187	148.9	1.6	107	1,036.8	10.4	101
Qinghai	—	—	—	—	—	—	235.6	5.0	215
Ningxia	5.1	0.3	567	45.5	...	12	318.9	1.5	46
Xinjiang	60.9	1.8	296	4.5	...	67	86.1	1.1	128

[Continuation of Area Sown and Output of Major Agricultural Crops in Various Provinces, Municipalities, and Autonomous Regions]

Region	8. Soybean			II. Cash crop sown area	1. Cotton			2. Plant oil		
	Sown area	Total output	Per-mu output		Sown area	Total output	Per-mu output	Sown area	Total output	Per-mu output
National total	12,621.5	180.6	143	28,190.6	8,742.6	7,196.9	82	14,014.6	23,634.6	169
Beijing	13.9	0.3	194	43.3	3.0	2.1	67	35.8	45.6	127
Tianjin	34.8	0.5	140	79.9	15.7	9.0	58	59.6	88.6	149
Hebei	408.7	6.0	147	1,855.7	1,048.2	771.6	74	734.6	1,075.9	146
Shanxi	239.2	3.5	146	761.0	333.6	241.6	72	359.5	424.3	118
Nei Monggol	353.4	4.9	138	872.6	...	...	—	739.7	979.6	132
Liaoning	687.6	11.6	168	516.3	69.7	46.6	67	363.8	494.9	136
Jilin	880.5	14.3	163	457.4	—	—	—	288.8	585.4	203
Heilongjiang	3,203.3	52.1	163	1,044.5	—	—	—	397.3	900.0	226
Shanghai	2.7	0.1	457	277.3	162.0	161.1	99	107.9	333.5	309
Jiangsu	507.7	9.7	192	1,842.9	1,020.3	1,150.9	113	742.6	1,837.1	247
Zhejiang	111.4	2.6	233	624.2	160.1	195.2	122	380.5	772.3	203
Anhui	1,172.1	12.5	107	2,096.1	491.8	315.3	64	1,379.7	2,509.7	182
Fujian	124.1	2.1	166	349.8	—	—	—	202.9	401.3	198
Jiangxi	209.3	3.1	147	797.2	151.4	131.2	87	555.4	519.9	94
Shandong	907.6	14.7	162	3,325.8	2,008.6	1,920.0	96	981.0	2,849.9	291
Henan	1,718.0	14.9	87	2,685.1	1,130.5	652.5	58	1,064.0	883.2	83
Hubei	243.5	3.2	131	1,830.3	860.6	682.0	79	821.5	1,149.1	140
Hunan	246.2	4.1	167	1,123.4	251.9	196.1	78	668.5	915.2	137
Guangdong	230.4	2.9	126	1,511.1	—	—	—	714.2	1,331.2	186
Guangxi	409.7	4.3	105	867.4	4.9	1.4	29	267.3	348.7	130
Sichuan	256.4	5.2	201	1,765.7	205.3	164.5	80	1,162.6	2,712.7	233
Guizhou	181.5	2.0	112	735.2	4.6	1.4	30	547.1	962.1	176
Yunnan	81.7	1.7	208	498.7	5.8	1.8	31	223.8	276.2	123
Xizang	0.1	—	—	18.2	—	—	—	17.2	22.1	128
Shaanxi	289.6	2.7	93	684.5	377.4	251.0	67	254.4	318.5	125
Gansu	51.4	0.7	136	393.2	9.5	9.4	99	330.7	285.4	86
Qinghai	—	—	—	116.9	—	—	—	116.8	147.4	126
Ningxia	29.8	0.4	126	126.8	—	—	—	113.9	55.5	49
Xinjiang	26.9	0.5	186	890.1	427.7	292.2	68	383.5	409.0	107

[Continuation of Area Sown and Output of Major Agricultural Crops in Various Provinces, Municipalities, and Autonomous Regions]

Region	Of which: Peanuts			Rapeseed			Sesame		
	Area sown	Total output	Per-mu output	Area sown	Total output	Per-mu output	Area sown	Total output	Per-mu output
National total	3,624.4	7,832.8	216	6,182.5	11,312.8	183	1,446.9	684.3	47
Beijing	22.8	36.7	161	3.8	1.4	36	4.3	1.5	35
Tianjin	13.0	20.2	155	0.1	...	20	8.7	5.2	60
Hebei	403.3	774.6	192	11.1	12.4	112	103.1	72.7	71
Shanxi	8.3	20.9	253	9.3	16.4	177	12.1	9.0	75
Nei Monggol	—	—	—	116.9	60.5	52	—	—	—
Liaoning	182.8	349.1	191	2.8	1.0	36	51.5	38.2	74
Jilin	9.3	17.3	186	—	—	—	1.3	0.9	67
Heilong-jiang	6.6	8.4	127	10.1	2.9	28	3.3	3.0	90
Shanghai	0.2	0.3	118	107.7	333.2	309	—	—	—
Jiangsu	196.8	461.2	234	529.7	1,360.6	257	15.5	12.3	80
Zhejiang	11.3	21.2	188	361.5	742.3	205	7.7	8.8	114
Anhui	191.8	286.2	149	958.7	2,117.6	221	221.8	96.5	43
Fujian	136.9	348.8	255	61.7	49.4	80	4.1	2.8	69
Jiangxi	74.4	125.9	169	383.9	319.6	83	97.1	74.4	77
Shandong	936.0	2,800.0	299	16.1	25.0	155	27.2	23.1	85
Henan	218.1	278.2	128	309.8	504.2	163	534.5	100.0	19
Hubei	51.3	124.9	244	533.4	853.8	160	235.7	169.0	72
Hunan	56.1	81.7	146	592.6	817.1	138	16.4	13.4	82
Guangdong	646.6	1,302.0	201	39.1	18.3	47	28.5	10.9	38
Guangxi	215.7	323.8	150	16.2	9.7	60	28.3	12.1	13
Sichuan	164.7	325.1	197	957.8	2,354.1	246	27.4	21.7	79
Guizhou	18.9	28.2	150	503.4	912.5	181	1.8	1.1	60
Yunnan	43.7	59.9	137	166.1	199.0	120	2.2	1.4	64
Xizang	0.1	0.2	229	17.1	21.9	128	—	—	—
Shaanxi	15.2	36.7	241	144.6	237.6	164	12.2	4.5	37
Gansu	—	—	—	79.0	90.0	114	—	—	—
Qinghai	—	—	—	113.0	145.1	128	—	—	—
Ningxia	—	—	—	4.7	0.2	4	—	—	—
Xinjiang	0.5	1.3	200	132.3	107.0	81	2.2	1.8	82

[Continuation of Area Sown and Output of Major Agricultural Crops in Various Provinces, Municipalities, and Autonomous Regions]

Region	Linseed			Sunflower			3. Bast fiber crops		
	Area sown	Total output	Per-mu output	Area sown	Total output	Per-mu output	Area sown	Total output	Per-mu output
National total	957.8	671.2	70	1,220.9	2,572.6	211	688.2	2,478.9	360
Beijing	—	—	—	2.6	2.8	107	0.7	0.5	71
Tianjin	4.8	3.7	77	32.7	59.3	182	2.2	1.8	82
Hebei	154.7	112.9	73	56.4	96.3	171	19.6	22.9	117
Shanxi	171.2	139.5	82	68.0	120.3	177	4.8	3.9	81
Nei Monggol	246.5	163.1	66	224.3	639.1	285	5.8	3.2	56
Liaoning	0.3	0.1	22	116.3	100.8	87	20.8	10.8	52
Jilin	—	—	—	226.4	475.7	210	28.7	12.8	45
Heilongjiang	—	—	—	324.7	826.0	254	116.4	130.5	112
Shanghai	—	—	—	—	—	—	—	—	—
Jiangsu	—	—	—	—	—	—	22.6	97.6	433
Zhejiang	—	—	—	—	—	—	48.7	368.2	756
Anhui	—	—	—	0.1	0.1	100	78.8	373.7	474
Fujian	—	—	—	0.1	...	52	4.1	19.6	474
Jiangxi	—	—	—	—	—	—	15.7	50.4	320
Shandong	—	—	—	1.6	1.5	98	39.5	112.2	284
Henan	—	—	—	0.6	0.2	33	74.4	360.1	484
Hubei	—	—	—	—	—	—	40.1	233.2	582
Hunan	—	—	—	1.8	1.7	95	35.0	155.8	446
Guangdong	—	—	—	—	—	—	28.6	151.8	531
Guangxi	—	—	—	—	—	—	25.0	110.2	441
Sichuan	3.2	2.9	91	5.7	7.4	129	59.9	245.9	411
Guizhou	—	—	—	16.2	14.5	89	3.5	5.1	146
Yunnan	0.2	0.1	50	4.2	9.3	221	6.2	3.5	56
Xizang	—	—	—	—	—	—	—	—	—
Shaanxi	11.1	3.4	31	—	—	—	2.4	1.6	67
Gansu	205.5	131.4	64	16.4	39.7	242	3.2	3.0	95
Qinghai	3.8	2.3	60	—	—	—	—	—	—
Ningxia	54.5	31.9	59	7.3	11.5	158	0.2	0.1	54
Xinjiang	102.0	79.9	78	115.5	166.4	144	1.3	0.5	39

[Continuation of Area Sown and Output of Major Agricultural Crops in Various Provinces, Municipalities, and Autonomous Regions]

Region	Of which: Jute and ambari hemp			Ramie			Hemp (twine)		
	Area sown	Total output	Per-mu output	Area sown	Total output	Per-mu output	Area sown	Total output	Per-mu output
National total	368.7	2,120.7	575	70.3	117.4	167	99.6	72.7	73
Beijing	—	—	—	—	—	—	—	—	—
Tianjin	0.5	0.9	168	—	—	—	—	—	—
Hebei	8.0	14.3	178	—	—	—	5.8	4.4	75
Shanxi	—	—	—	—	—	—	4.6	3.8	83
Nei Monggol	—	—	—	—	—	—	3.9	2.6	68
Liaoning	0.9	1.5	166	—	—	—	3.8	2.3	60
Jilin	—	—	—	—	—	—	17.4	6.6	38
Heilong-jiang	—	—	—	—	—	—	33.1	10.9	33
Shanghai	—	—	—	—	—	—	—	—	—
Jiangsu	18.9	87.6	463	0.7	0.8	123	1.7	7.2	423
Zhejiang	46.8	365.7	781	1.1	1.2	109	0.8	1.3	163
Anhui	66.6	354.1	532	3.5	5.9	167	4.2	9.0	213
Fujian	3.9	19.4	496	0.2	0.2	79	—	—	—
Jiangxi	11.9	46.3	387	3.8	4.1	108	—	—	—
Shandong	24.9	92.7	372	—	—	—	7.7	12.4	161
Henan	58.6	346.2	591	0.1	0.2	140	2.3	1.8	77
Hubei	22.0	197.8	899	16.5	32.5	198	0.2	0.4	219
Hunan	16.6	117.9	710	18.3	37.9	207	—	—	—
Guangdong	28.4	151.7	534	0.2	0.1	68	—	—	—
Guangxi	22.8	107.3	471	2.2	2.9	132	—	—	—
Sichuan	37.1	214.1	577	21.1	30.1	142	1.6	1.5	98
Guizhou	0.7	3.0	423	1.7	1.2	71	0.8	0.6	79
Yunnan	—	—	—	0.2	...	27	5.5	3.2	58
Xizang	—	—	—	—	—	—	—	—	—
Shaanxi	0.1	0.2	200	0.7	0.3	43	1.5	1.1	73
Gansu	—	—	—	—	—	—	3.2	3.0	95
Qinghai	—	—	—	—	—	—	...	...	479
Ningxia	—	—	—	—	—	—	0.2	0.1	54
Xinjiang	—	—	—	—	—	—	1.3	0.5	37

[Continuation of Area Sown and Output of Major Agricultural Crops in Various Provinces, Municipalities, and Autonomous Regions]

Region	Flax			4. Sugar			Sugarcane		
	Sown area	Total output	Per-mu output	Sown area	Total output	Per-mu output	Sown area	Total output	Per-mu output
National total	82.5	121.6	147	1,673.4	87,187.8	5,210	980.0	73,764.8	7,527
Beijing	—	—	—	—	—	—	—	—	—
Tianjin	—	—	—	—	—	—	—	—	—
Hebei	—	—	—	14.0	194.9	1,392	—	—	—
Shanxi	—	—	—	19.6	453.1	2,316	—	—	—
Nei Monggol	—	—	—	91.6	2,303.6	2,515	—	—	—
Liaoning	...	...	...	29.0	667.6	2,305	—	—	—
Jilin	2.6	3.3	129	82.9	1,357.8	1,638	—	—	—
Heilongjiang	79.9	118.3	148	366.2	5,960.0	1,611	—	—	—
Shanghai	—	—	—	—	—	—	—	—	—
Jiangsu	—	—	—	10.4	187.4	1,796	0.9	43.9	4,988
Zhejiang	—	—	—	16.2	1,398.2	8,631	16.2	1,398.2	8,631
Anhui	—	—	—	1.0	28.6	2,932	0.6	22.9	3,899
Fujian	—	—	—	79.0	7,968.6	10,090	79.0	7,968.6	10,090
Jiangxi	—	—	—	35.5	2,408.5	6,791	35.5	2,408.5	6,791
Shandong	—	—	—	15.7	405.0	2,585	—	—	—
Henan	—	—	—	2.9	123.5	4,328	2.7	122.0	4,483
Hubei	—	—	—	3.8	217.6	5,728	3.7	216.2	5,891
Hunan	—	—	—	28.5	1,928.9	6,775	28.5	1,928.9	6,775
Guangdong	—	—	—	417.7	31,457.6	8,263	417.7	31,457.6	8,263
Guangxi	—	—	—	229.1	14,456.9	6,310	229.1	14,456.9	6,310
Sichuan	—	—	—	78.2	1,357.5	5,574	77.1	1,337.8	5,621
Guizhou	—	—	—	5.8	256.9	4,379	5.8	256.8	4,395
Yunnan	—	—	—	83.4	6,148.8	7,373	83.1	6,142.3	7,391
Xizang	—	—	—	—	—	—	—	—	—
Shaanxi	—	—	—	5.6	99.7	1,780	0.1	4.2	4,200
Gansu	—	—	—	9.9	293.5	2,973	—	—	—
Qinghai	—	—	—	0.1	1.6	2,323	—	—	—
Ningxia	—	—	—	10.4	415.5	3,983	—	—	—
Xinjiang	—	—	—	36.9	1,096.5	2,972	—	—	—

[Continuation of Area Sown and Output of Major Agricultural Crops in Various Provinces, Municipalities, and Autonomous Regions]

Region	Sugarbeets			5. Tobacco			Of which: Cured tobacco		
	Sown area	Total output	Per-mu output	Sown area	Total output	Per-mu output	Sown area	Total output	Per-mu output
National total	693.4	13,423.0	1,936	1,686.3	4,358.6	258	1,332.5	3,695.6	277
Beijing	—	—	—	0.2	0.4	260	—	—	—
Tianjin	—	—	—	0.5	0.6	138	—	—	—
Hebei	14.0	194.9	1,392	16.0	35.0	219	4.7	11.4	240
Shanxi	19.6	453.1	2,316	9.7	25.5	262	8.1	22.2	272
Nei Monggol	91.6	2,303.6	2,515	6.9	17.3	251	0.2	0.7	364
Liaoning	29.0	667.6	2,305	21.3	67.4	317	17.3	57.5	332
Jilin	82.9	1,357.8	1,638	24.3	68.4	282	14.1	42.1	298
Heilong-jiang	366.2	5,960.0	1,611	66.1	160.0	242	59.2	138.0	233
Shanghai	—	—	—	—	—	—	—	—	—
Jiangsu	9.5	143.5	1,505	7.2	21.0	292	6.0	18.6	309
Zhejiang	—	—	—	5.9	12.9	219	—	—	—
Anhui	0.4	5.7	1,477	100.7	229.7	228	92.5	220.1	238
Fujian	—	—	—	40.8	73.0	179	37.2	67.9	183
Jiangxi	—	—	—	9.8	15.3	157	4.2	7.0	167
Shandong	15.7	405.0	2,585	170.1	704.5	414	161.1	673.9	418
Henan	0.2	1.5	1,138	373.9	997.4	267	367.2	988.5	269
Hubei	0.1	1.4	1,102	89.1	172.3	193	48.9	94.4	193
Hunan	—	—	—	118.2	248.7	211	98.1	225.6	230
Guangdong	—	—	—	49.1	93.5	190	23.7	45.7	193
Guangxi	—	—	—	56.5	106.2	188	46.8	92.6	198
Sichuan	1.1	19.7	1,881	157.3	324.5	206	45.5	93.3	205
Guizhou	...	0.1	189	163.8	364.0	222	132.6	328.2	247
Yunnan	0.3	6.5	2,167	154.6	521.2	337	138.3	502.1	363
Xizang	—	—	—	—	—	—	—	—	—
Shaanxi	5.5	95.5	1,736	36.0	75.8	211	23.3	57.1	245
Gansu	9.9	293.5	2,973	6.6	17.0	259	3.3	8.1	245
Qinghai	0.1	1.6	2,323	—	—	—	—	—	—
Ningxia	10.4	415.5	3,983	0.2	0.6	160	0.2	0.6	252
Xinjiang	36.9	1,096.5	2,972	1.5	6.4	382	—	—	—

[Continuation of Area Sown and Output of Major Agricultural Crops in Various Provinces, Municipalities, and Autonomous Regions]

Region	6. Medicinal herb--sown area	7. Other cash crops--sown area	III. Other agricultural crops--sown area	Of which:			
				Vege-tables	Melon	Green fodder	Green manure
National total	143.2	1,242.3	18,747.7	5,831.2	724.5	2,471.2	9,265.4
Beijing	0.1	3.5	128.6	88.7	11.9	23.7	4.2
Tianjin	0.4	1.5	83.3	58.1	9.2	4.9	3.7
Hebei	8.9	14.4	656.4	343.6	67.4	89.9	61.3
Shanxi	6.2	27.6	367.3	140.4	29.3	123.8	14.0
Nei Monggol	1.9	26.7	324.2	112.5	21.7	145.3	44.7
Liaoning	4.5	7.2	444.3	340.8	11.6	32.2	56.8
Jilin	8.1	24.6	308.2	240.3	24.9	21.4	4.8
Heilongjiang	2.9	95.6	1,039.6	464.2	87.3	373.6	114.5
Shanghai	1.2	6.2	187.3	97.1	11.4	6.4	72.1
Jiangsu	4.0	35.8	1,514.6	289.0	34.1	49.0	1,113.6
Zhejiang	5.8	7.0	1,158.4	187.0	20.8	—	915.3
Anhui	4.5	39.6	864.9	164.2	34.8	4.3	632.0
Fujian	2.7	20.3	229.1	127.2	6.9	11.7	83.3
Jiangxi	3.4	26.0	1,881.5	120.3	10.5	22.6	1,725.4
Shandong	5.1	105.8	616.3	426.6	73.7	46.3	69.7
Henan	5.6	33.8	543.8	315.5	94.2	11.8	118.2
Hubei	6.8	8.4	1,492.1	258.7	12.8	25.7	1,194.9
Hunan	10.3	11.0	2,726.0	389.7	16.0	91.3	2,212.6
Guangdong	9.6	291.9	558.9	349.3	16.1	69.9	81.4
Guangxi	2.9	281.7	438.4	136.4	11.7	56.7	217.0
Sichuan	17.2	85.2	1,184.0	601.6	6.4	374.9	152.4
Guizhou	0.9	9.5	238.5	146.9	5.6	10.2	75.8
Yunnan	8.1	16.8	243.2	119.1	4.4	45.3	66.0
Xizang	—	1.0	14.3	12.7	—	1.5	—
Shaanxi	4.7	1.0	386.1	133.7	27.7	172.7	49.5
Gansu	15.4	17.9	457.1	71.4	10.9	328.2	17.5
Qinghai	—	—	28.9	6.4	0.4	15.7	6.4
Ningxia	0.1	2.0	81.3	17.3	4.1	45.7	4.9
Xinjiang	1.9	37.3	551.1	72.5	58.7	266.5	153.4

Draft supplied by Planning Department of Ministry of Agriculture, Animal Husbandry and Fishery

Output of Silkworm Cocoons and Tea in Various Provinces, Municipalities, and Autonomous Regions

Unit: 10,000 dan

Region	I. Silk- worm cocoons total	Of which:		II. Tea total	1. Black tea	2. Green tea	3. Wulong tea	4. Pressed tea mate- rials	5. Other types of tea
		Mul- berry silk- worm cocoons	Tussah silk- worm cocoons						
National total	628.1	541.7	86.0	794.6	138.1	494.8	28.4	31.8	101.5
Beijing	0.2	0.2	—	—	—	—	—	—	—
Tianjin	—	—	—	—	—	—	—	—	—
Hebei	2.1	1.7	0.4	—	—	—	—	—	—
Shanxi	5.0	5.0	...	—	—	—	—	—	—
Nei Monggol	1.3	—	1.2	—	—	—	—	—	—
Liaoning	60.5	0.2	60.3	—	—	—	—	—	—
Jilin	1.2	—	1.2	—	—	—	—	—	—
Heilongjiang	4.4	...	4.4	—	—	—	—	—	—
Shanghai	0.3	0.3	—	—	—	—	—	—	—
Jiangsu	94.2	94.2	—	14.6	6.3	8.2	—	—	0.1
Zhejiang	134.2	134.2	—	214.3	15.2	197.7	—	—	1.4
Anhui	10.9	10.9	—	85.7	13.2	72.5	—	—	—
Fujian	0.2	0.2	—	65.5	3.1	36.5	23.9	—	2.0
Jiangxi	1.1	1.1	—	26.7	4.9	21.8	—	—	—
Shandong	23.7	16.6	6.9	2.4	—	—	—	—	2.4
Henan	10.5	1.1	9.4	3.5	—	3.5	—	—	—
Hubei	15.5	13.8	1.7	41.1	6.0	23.0	—	9.2	2.9
Hunan	5.4	5.4	—	149.4	29.8	39.6	0.1	22.6	57.3
Guangdong	39.9	39.8	—	32.1	13.9	11.4	4.4	—	2.4
Guangxi	5.2	5.1	0.1	18.6	6.5	10.1	...	...	2.0
Sichuan	198.7	198.6	0.1	74.5	20.0	29.0	—	—	25.5
Guizhou	0.6	0.4	0.2	16.8	2.6	9.3	—	—	4.9
Yunnan	2.4	2.4	—	45.5	16.6	28.3	—	—	0.6
Xizang	—	—	—	—	—	—	—	—	...
Shaanxi	8.9	8.8	0.1	3.8	—	3.8	—	—	—
Gansu	...	...	—	0.1	—	0.1	—	—	—
Qinghai	—	—	—	—	—	—	—	—	—
Ningxia	—	—	—	—	—	—	—	—	—
Xinjiang	1.7	1.7	—	—	—	—	—	—	—

Draft supplied by Planning Department of Ministry of Agriculture, Animal Husbandry and Fishery

Output of Fruits in Various Provinces, Municipalities, and Autonomous Regions

Unit: 10,000 dan

Region	III. Fruit total	Of which:									
		Banana	Apples	Citrus	Pears	Grapes	Pine- apple	Dates	Per- sim- mons	Litchi nuts	Longan nuts
National total	15,425.9	402.4	4,859.1	1,877.8	3,510.5	371.9	268.7	852.2	964.9	154.0	78.0
Beijing	261.9	—	75.0	—	81.9	13.3	—	2.5	28.4	—	—
Tianjin	59.8	—	15.3	—	17.3	3.6	—	4.7	7.7	—	—
Hebei	1,968.7	—	396.2	—	1,051.3	22.4	—	249.1	86.3	—	—
Shanxi	628.8	—	197.9	—	137.8	11.7	—	105.8	91.0	—	—
Nei Monggol	71.2	—	21.9	—	10.8	3.3	—	—	—	—	—
Liaoning	1,522.3	—	1,145.4	—	257.4	19.5	—	—	—	—	—
Jilin	72.0	—	15.0	—	20.9	2.7	—	—	—	—	—
Heilongjiang	33.0	—	4.8	—	—	0.6	—	—	—	—	—
Shanghai	87.1	—	0.2	1.7	47.3	1.6	—	—	—	—	—
Jiangsu	522.7	—	119.7	25.6	274.2	11.1	—	3.8	9.0	—	—
Zhejiang	516.0	—	7.2	257.1	88.4	—	—	3.6	14.9	—	—
Anhui	248.2	—	36.0	1.8	146.3	15.8	—	12.6	9.2	—	—
Fujian	341.8	47.6	0.2	117.2	12.7	1.2	9.5	—	11.5	37.7	24.5
Jiangxi	146.7	—	—	92.7	25.4	—	—	—	5.6	—	—
Shandong	3,091.9	—	1,855.5	—	625.6	59.5	—	246.4	124.6	—	—
Henan	932.6	—	387.2	0.2	126.8	27.2	—	134.7	202.8	—	—
Hubei	275.0	—	13.5	66.3	88.3	1.6	—	6.4	56.9	—	—
Hunan	341.3	—	—	244.5	37.6	—	—	10.0	1.4	—	—
Guangdong	1,024.9	269.8	—	315.9	9.9	—	133.4	—	19.2	83.5	28.4
Guangxi	632.4	71.2	1.9	254.5	15.9	—	114.4	3.6	19.5	32.1	25.1
Sichuan	845.3	—	73.6	476.3	125.3	—	—	—	—	—	—
Guizhou	131.5	6.0	1.5	8.0	25.7	1.5	—	0.6	8.7	—	—
Yunnan	282.3	7.8	18.7	10.2	136.6	0.5	11.4	0.3	16.3	0.7	—
Xizang	6.2	—	5.4	—	—	—	—	—	—	—	—
Shaanxi	564.5	—	198.3	5.3	25.6	3.5	—	54.4	226.8	—	—
Gansu	245.3	—	111.4	0.5	66.7	0.5	—	9.8	22.1	—	—
Qinghai	26.8	—	16.5	—	9.8	0.1	—	—	—	—	—
Ningxia	45.5	—	29.9	—	5.4	0.5	—	3.9	—	—	—
Xinjiang	500.2	—	110.9	—	39.6	170.2	—	—	—	—	—

Draft supplied by Planning Department of Ministry of Agriculture, Animal Husbandry and Fishery

Areas of Various Provinces, Municipalities, and Autonomous Regions Devoted to
Mulberry Groves, Oak Trees on Slopes, and Tea Groves

Unit: 10,000 mu

Region	IV. Area of mulberry groves		V. Oak trees on slopes			VI. Area of tea groves		
	Total	Of which: Area newly increased in current year	Total	Planted in current year	Area increased in current year	Total	Of which: Area of picking in current year	Area increased in current year
National total	552.8	116.7	1,531.9	934.7	24.6	1,645.4	1,128.2	115.7
Beijing	0.7	0.1	—	—	—	—	—	—
Tianjin	—	—	—	—	—	—	—	—
Hebei	8.9	0.6	13.6	2.3	0.4	—	—	—
Shanxi	18.8	6.6	0.5	—	—	—	—	—
Nei Monggol	—	...	121.9	22.0	5.0	—	—	—
Liaoning	1.4	0.3	800.3	573.7	6.5	—	—	—
Jilin	0.4	—	82.9	15.3	1.5	—	—	—
Heilongjiang	0.3	0.1	81.8	33.3	—	—	—	—
Shanghai	0.2	—	—	—	—	—	—	—
Jiangsu	123.7	35.5	—	—	—	19.8	11.6	1.2
Zhejiang	127.3	6.9	—	—	—	273.4	206.0	12.8
Anhui	33.1	6.5	—	—	—	177.8	122.5	14.3
Fujian	0.7	0.1	—	—	—	194.2	117.5	21.3
Jiangxi	8.2	2.2	—	—	—	117.7	64.2	15.5
Shandong	17.9	2.3	116.5	71.0	3.3	5.0	3.5	0.1
Henan	5.6	0.4	267.4	198.7	7.2	21.0	11.2	6.4
Hubei	35.6	7.4	30.4	16.5	—	119.0	81.1	10.4
Hunan	10.9	1.7	—	—	—	210.7	175.4	2.6
Guangdong	23.7	2.1	—	—	—	69.7	45.2	8.8
Guangxi	3.4	0.6	0.2	0.2	—	37.1	26.3	3.3
Sichuan	72.8	21.8	4.6	0.9	0.1	159.7	106.7	1.9
Guizhou	1.6	0.4	6.8	0.4	0.1	49.6	35.8	1.6
Yunnan	5.5	2.2	—	—	—	151.5	104.6	10.4
Xizang	—	—	—	—	—	0.1	0.1	—
Shaanxi	49.1	17.9	4.4	0.4	0.3	38.6	16.1	2.1
Gansu	0.8	0.6	0.6	—	0.2	0.5	0.4	—
Qinghai	—	—	—	—	—	—	—	—
Ningxia	—	—	—	—	—	—	—	—
Xinjiang	2.2	0.4	—	—	—	—	—	—

Draft supplied by Planning Department of Ministry of Agriculture, Animal Husbandry and Fishery

Area of Various Provinces, Municipalities, and Autonomous Regions Devoted to
Fruit Orchards

Unit: 10,000 mu

Region	VII. Orchard area		Of which:			
	Total	Of which: Area increased in current year	Banana orchards	Of which: Area in- creased in cur- rent year	Apple orchards	Of which: Area in- creased in cur- rent year
National total	2,927.5	233.8	13.7	6.5	1,081.2	46.0
Beijing	30.1	5.1	—	—	12.2	1.6
Tianjin	16.2	1.7	—	—	6.5	0.2
Hebei	326.9	16.6	—	—	118.6	4.4
Shanxi	107.4	4.5	—	—	64.0	2.2
Nei Monggol	37.5	1.5	—	—	16.1	0.7
Liaoning	387.9	21.0	—	—	239.6	10.6
Jilin	28.6	1.3	—	—	8.0	0.2
Heilongjiang	25.1	1.7	—	—	2.9	0.3
Shanghai	5.3	0.3	—	—	...	...
Jiangsu	49.5	2.8	—	—	18.0	0.4
Zhejiang	113.0	18.0	—	—	2.7	...
Anhui	37.5	1.1	—	—	13.1	0.1
Fujian	143.4	21.7	3.2	0.7	2.7	0.1
Jiangxi	59.7	11.7	—	—	—	—
Shandong	369.6	30.6	—	—	267.7	15.9
Henan	179.9	5.5	—	—	114.7	2.3
Hubei	78.8	2.3	—	—	16.3	—
Hunan	129.2	7.0	—	—	—	—
Guangdong	208.9	20.0	4.2	3.8	—	—
Guangxi	77.0	9.8	4.0	1.7	—	—
Sichuan	159.1	28.4	—	—	21.4	2.1
Guizhou	9.3	0.7	1.0	0.2	2.2	...
Yunnan	49.6	2.8	1.3	0.1	12.1	0.3
Xizang	1.2	—	—	—	1.0	—
Shaanxi	149.6	8.7	—	—	76.3	2.7
Gansu	50.0	1.7	—	—	33.3	0.4
Qinghai	3.6	0.2	—	—	2.7	0.2
Ningxia	10.7	0.7	—	—	6.5	0.2
Xinjiang	82.9	6.4	—	—	22.6	1.1

[Continuation of Area of Various Provinces, Municipalities, and Autonomous Regions Devoted to Fruit Orchards]

Region	Of which:					
	Citrus orchard	Of which: Area in- creased in current year	Pear orchard	Of which: Area in- creased in current year	Grape orchard	Of which: Area in- creased in current year
National total	483.0	72.4	445.9	14.4	70.0	16.7
Beijing	—	—	8.1	1.2	1.9	0.5
Tianjin	—	—	3.1	0.1	1.3	0.7
Hebei	—	—	87.3	2.7	6.5	0.5
Shanxi	—	—	21.9	1.0	2.9	0.3
Nei Monggol	—	—	5.4	0.3	0.6	0.1
Liaoning	—	—	88.7	1.0	5.4	1.4
Jilin	—	—	7.8	0.1	1.5	0.5
Heilongjiang	—	—	—	—	0.8	0.3
Shanghai	0.8	0.1	1.9	...	0.1	...
Jiangsu	2.7	0.3	18.5	0.7	2.1	0.7
Zhejiang	69.8	14.5	10.1	0.6	—	—
Anhui	1.2	0.1	16.0	0.2	1.6	0.1
Fujian	39.4	7.0	6.6	0.5	0.1	—
Jiangxi	42.4	10.7	11.1	—	—	—
Shandong	—	—	46.2	0.8	14.6	6.0
Henan	—	—	19.4	1.0	5.2	1.2
Hubei	34.7	2.0	22.3	—	0.3	0.3
Hunan	105.7	5.3	13.5	0.5	—	—
Guangdong	31.7	5.5	—	—	—	—
Guangxi	34.0	3.0	2.6	...	—	—
Sichuan	110.3	23.1	14.0	1.9	—	—
Guizhou	3.0	0.2	2.1	0.1	0.1	...
Yunnan	3.4	0.3	14.9	0.5	0.5	0.1
Xizang	—	—	—	—	—	—
Shaanxi	3.8	0.3	7.4	0.7	2.0	1.0
Gansu	0.1	—	8.0	0.2	0.5	0.1
Qinghai	—	—	0.8	—	—	—
Ningxia	—	—	0.9	...	0.5	0.3
Xinjiang	—	—	7.3	0.3	21.5	2.6

Draft supplied by Planning Department of Ministry of Agriculture, Animal Husbandry and Fishery

National Composition of Grain Crops by Individual Crops

	Sown area				Total output			
	Absolute figure (10,000 mu)		Composition (percent)		Absolute figure (10,000 mu)		Composition (percent)	
	1982	1981	1982	1981	1982	1981	1982	1981
Total of grain crops	170,093.5	172,436.5	100.0	100.0	7,068.5	6,500.4	100.0	100.0
I. Classified by seasons								
Summer grain	44,411.1	44,805.5	26.1	26.0	1,465.1	1,279.8	20.7	18.5
Early rice	15,769.3	15,962.8	9.3	9.2	1,061.2	990.7	15.0	15.3
Autumn grain	109,913.1	111,668.2	64.6	64.8	4,542.2	4,229.9	64.3	66.2
II. Classified by varieties								
Cereals	49,584.2	49,942.0	29.1	29.0	3,224.9	2,879.1	45.6	43.6
Early rice	15,769.3	15,962.8	9.3	9.3	1,061.2	990.7	15.0	15.3
Middle rice and one-season late rice	15,022.5	14,990.0	8.8	8.7	1,073.7	981.8	15.2	13.8
Double-season late rice	15,904.3	16,060.1	9.3	9.3	896.3	722.7	12.7	11.5
Northern rice	2,888.1	2,929.1	1.7	1.7	193.7	183.9	2.7	3.0
Wheat	41,911.9	42,460.3	24.6	24.6	1,368.4	1,192.8	19.3	17.2
Winter wheat	34,787.0	34,892.0	20.5	20.2	1,203.4	1,038.5	17.0	14.5
Spring wheat	7,124.8	7,568.3	4.1	4.1	165.0	154.3	2.3	2.7
Tubers	14,044.3	14,430.5	8.3	8.3	533.6	519.1	7.5	9.0
Maize	27,763.2	29,137.4	16.3	16.9	1,205.9	1,184.1	17.1	19.5
Gaoliang	4,175.0	3,915.1	2.5	2.3	139.4	133.0	2.0	2.1
Millet	6,058.0	5,833.8	3.6	3.4	131.6	115.3	1.9	1.7
Other miscellaneous grain	13,935.4	14,682.1	8.2	8.5	284.3	290.2	4.0	4.4
Soybean	12,621.5	12,035.3	7.4	7.0	180.6	186.5	2.6	2.5

Draft supplied by Planning Department of Ministry of Agriculture, Animal Husbandry and Fishery

Indicators of Grain Output in Various Provinces, Municipalities, and Autonomous Regions

Area: 10,000 mu
 Unit: Total output: 100 million jin
 Per-mu output: jin

Region	1982			1981			Increase or decrease in 1982 compared with 1981		
	Sown area	Total output	Per-mu output	Sown area	Total output	Per-mu output	Sown area	Total output	Absolute figure
									Percent
National total	170,093.5	7,068.5	416	172,436.5	6,500.4	377	-2,343.0	568.1	8.7
Beijing	791.0	37.1	469	794.7	36.1	455	-3.7	1.0	2.8
Tianjin	751.7	24.5	326	782.1	21.4	274	-30.4	3.1	14.5
Hebei	10,390.4	350.4	337	10,965.7	315.0	287	-575.3	35.4	11.2
Shanxi	5,033.0	165.0	328	5,130.4	145.0	283	-97.4	20.0	13.8
Nei Monggol	5,765.0	106.0	178	5,780.7	102.0	176	-15.7	4.0	3.9
Liaoning	4,718.8	230.4	488	4,709.0	232.1	493	9.8	-1.7	-0.7
Jilin	5,332.8	200.0	375	5,263.9	184.4	350	68.9	15.6	8.5
Heilongjiang	10,634.2	230.0	216	10,923.2	250.0	229	-289.0	-20.0	-8.0
Shanghai	674.0	43.2	641	666.8	37.1	556	7.2	6.1	16.4
Jiangsu	9,580.9	571.1	596	9,593.4	502.3	524	-12.5	68.8	13.7
Zhejiang	5,156.1	342.5	664	5,062.6	283.9	561	93.5	58.6	20.6
Anhui	9,049.1	386.6	427	9,036.3	357.5	396	12.8	29.1	8.1
Fujian	3,125.3	169.6	543	3,206.3	162.0	505	-81.0	7.6	4.7
Jiangxi	5,615.9	281.7	502	5,637.4	253.7	450	-21.5	28.0	11.0
Shandong	11,527.8	475.0	412	12,224.9	462.5	378	-697.1	12.5	2.7
Henan	13,385.0	443.4	331	13,544.2	462.9	342	-159.2	-19.5	-4.2
Hubei	7,868.6	399.2	507	7,760.0	341.4	440	108.6	57.8	16.9
Hunan	8,105.0	475.0	586	8,130.1	434.1	534	-25.1	40.9	9.4
Guangdong	7,529.9	388.6	516	7,592.8	331.1	436	-62.9	57.5	17.4
Guangxi	5,909.7	270.6	458	5,899.6	229.9	390	10.1	40.7	17.7
Sichuan	15,247.9	746.9	490	15,454.3	693.1	448	-206.4	53.8	7.8
Guizhou	3,425.9	130.8	382	3,462.1	113.5	328	-36.2	17.3	15.2
Yunnan	5,210.8	189.2	363	5,309.7	183.4	345	-98.9	5.8	3.2
Xizang	295.3	9.0	305	289.9	9.7	335	5.4	-0.7	-7.2
Shaanxi	6,036.4	185.0	306	6,119.4	150.0	245	-83.0	35.0	23.3
Gansu	4,266.0	93.8	220	4,289.5	87.0	203	-23.5	6.8	7.8
Qinghai	612.6	18.5	303	612.2	16.0	261	0.4	2.5	15.6
Ningxia	1,001.8	23.9	238	1,071.0	25.3	236	-69.2	-1.4	-5.5
Xinjiang	3,052.6	81.5	267	3,124.3	78.0	250	-71.7	3.5	4.5

Draft supplied by Planning Department of Ministry of Agriculture, Animal Husbandry and Fishery

Indicators of Rice Output in Various Provinces, Municipalities, and Autonomous Regions

Area: 10,000 mu

Unit: Total output: 100 million jin

Per-mu output: jin

Region	1982			1981			Increase or decrease in 1982 compared with 1981		
	Sown area	Total output	Per-mu output	Sown area	Total output	Per-mu output	Sown area	Total output	Absolute figure
									Percent
National total	49,584.2	3,224.9	650	49,942.0	2,879.1	576	-357.8	345.8	12.0
Beijing	62.1	4.5	727	73.9	4.3	586	-11.8	0.2	4.7
Tianjin	34.6	2.2	623	50.9	2.5	490	-16.3	-0.3	-12.0
Hebei	191.5	15.2	795	197.3	14.2	718	-5.8	1.0	7.0
Shanxi	14.5	1.2	828	14.1	1.1	795	0.4	0.1	9.1
Nei Monggol	23.7	0.9	386	23.4	0.8	339	0.3	0.1	12.5
Liaoning	608.4	50.7	834	596.0	49.8	835	12.4	0.9	1.8
Jilin	390.6	28.9	741	380.6	22.5	592	10.0	6.4	28.4
Heilongjiang	358.9	14.2	395	336.1	11.2	332	22.8	3.0	26.8
Shanghai	423.9	30.3	715	408.8	25.0	612	15.1	5.3	21.2
Jiangsu	3,752.1	287.5	766	3,897.0	261.3	671	-144.9	26.2	10.0
Zhejiang	3,749.9	284.8	759	3,750.2	236.2	630	-0.3	48.6	20.6
Anhui	3,168.2	208.7	659	3,190.9	189.0	612	-22.7	19.7	10.4
Fujian	2,419.8	143.2	592	2,476.2	136.2	550	-56.4	7.0	5.1
Jiangxi	5,009.2	269.3	538	5,044.1	243.3	482	-34.9	26.0	10.7
Shandong	149.3	10.1	677	208.4	13.0	626	-59.1	-2.9	-22.3
Henan	592.9	35.0	591	592.7	40.9	690	0.2	-5.9	-14.4
Hubei	3,907.7	270.7	693	3,885.1	240.0	618	22.6	30.7	12.8
Hunan	6,585.1	436.0	662	6,624.7	399.7	603	-39.6	36.3	9.1
Guangdong	6,006.9	348.9	581	6,088.8	295.8	486	-81.9	53.1	18.0
Guangxi	4,159.5	234.9	565	4,187.5	196.3	469	-28.0	38.6	19.7
Sichuan	4,685.8	354.1	756	4,688.6	327.8	699	-2.8	26.3	8.0
Guizhou	1,172.5	70.0	597	1,154.3	57.4	497	18.2	12.6	22.0
Yunnan	1,655.4	92.8	560	1,616.7	87.2	539	38.7	5.6	6.4
Xizang	0.9	...	495	1.0	0.1	478	-0.1	—	—
Shaanxi	237.8	15.9	669	242.2	10.6	437	-4.4	5.3	50.0
Gansu	5.7	0.3	526	5.6	0.3	536	0.1	—	—
Qinghai	—	—	—	—	—	—	—	—	—
Ningxia	75.5	7.9	1,042	73.5	7.4	1,004	2.0	0.5	6.8
Xinjiang	141.8	6.5	458	133.4	5.2	389	8.4	1.3	25.0

Draft supplied by Planning Department of Ministry of Agriculture, Animal Husbandry and Fishery

Indicators of Early Rice Output in Various Provinces, Municipalities, and Autonomous Regions

Area: 10,000 mu

Unit: Total output: 100 million jin
Per-mu output: jin

Region	1982			1981			Increase or decrease in 1982 compared with 1981		
	Sown area	Total output	Per-mu output	Sown area	Total output	Per-mu output	Sown area	Total output	Absolute figure
									Percent
National total	15,769.3	1,061.2	673	15,962.8	990.7	621	-193.5	70.5	7.1
Beijing	—	—	—	—	—	—	—	—	—
Tianjin	—	—	—	—	—	—	—	—	—
Hebei	—	—	—	—	—	—	—	—	—
Shanxi	—	—	—	—	—	—	—	—	—
Nei Monggol	—	—	—	—	—	—	—	—	—
Liaoning	—	—	—	—	—	—	—	—	—
Jilin	—	—	—	—	—	—	—	—	—
Heilongjiang	—	—	—	—	—	—	—	—	—
Shanghai	159.1	11.4	718	151.3	12.2	808	7.8	-0.8	-6.6
Jiangsu	474.1	33.5	707	556.6	37.0	665	-82.5	-3.5	-9.5
Zhejiang	1,704.8	136.2	799	1,633.4	128.1	784	71.4	8.1	6.3
Anhui	1,113.7	84.5	759	1,081.1	76.6	708	32.6	7.9	10.3
Fujian	1,006.5	59.4	590	1,060.0	58.0	547	-53.5	1.4	2.4
Jiangxi	2,427.7	141.8	584	2,446.5	134.3	549	-18.8	7.5	5.6
Shandong	—	—	—	—	—	—	—	—	—
Henan	—	—	—	—	—	—	—	—	—
Hubei	1,145.0	89.7	784	1,141.2	77.0	675	3.8	12.7	16.5
Hunan	2,806.4	205.0	730	2,884.3	196.5	681	-77.9	8.5	4.3
Guangdong	2,847.5	171.7	603	2,883.4	158.2	549	-35.9	13.5	8.5
Guangxi	1,877.0	114.5	610	1,891.0	98.1	519	-14.0	16.4	16.7
Sichuan	133.0	8.8	665	164.3	10.2	619	-31.3	-1.4	-13.7
Guizhou	2.4	0.1	492	2.6	0.2	521	-0.2	-0.1	-50.0
Yunnan	72.1	4.6	638	67.1	4.3	641	5.0	0.3	7.0
Xizang	—	—	—	—	—	—	—	—	—
Shaanxi	—	—	—	—	—	—	—	—	—
Gansu	—	—	—	—	—	—	—	—	—
Qinghai	—	—	—	—	—	—	—	—	—
Ningxia	—	—	—	—	—	—	—	—	—
Xinjiang	—	—	—	—	—	—	—	—	—

Draft supplied by Planning Department of Ministry of Agriculture, Animal Husbandry and Fishery

Indicators of Wheat Output in Various Provinces, Municipalities, and Autonomous Regions

Area: 10,000 mu
 Unit: Total output: 100 million jin
 Per-mu output: jin

Region	1982			1981			Increase or decrease in 1982 compared with 1981		
	Sown area	Total output	Per-mu output	Sown area	Total output	Per-mu output	Sown area	Total output	Absolute figure
									Per cent
National total	41,911.9	1,368.4	326	42,460.3	1,192.8	281	-548.4	175.6	14.7
Beijing	270.9	9.5	352	275.4	11.2	406	-4.5	-1.7	-15.2
Tianjin	212.1	3.8	178	251.5	4.2	165	-39.4	-0.4	9.5
Hebei	3,364.7	89.5	266	3,776.6	83.5	221	-411.9	6.0	7.2
Shanxi	1,392.0	40.6	292	1,416.7	32.3	228	-24.7	8.3	25.7
Nei Monggol	1,316.9	25.3	192	1,354.3	20.0	147	-37.4	5.3	26.5
Liaoning	44.3	1.0	226	51.9	1.1	218	-7.6	-0.1	-9.1
Jilin	157.6	3.1	199	185.5	3.1	169	-27.9	—	—
Heilongjiang	2,856.5	55.6	195	3,285.5	62.8	191	-429.0	-7.2	-11.5
Shanghai	63.9	3.6	559	78.2	3.5	449	-14.3	0.1	2.9
Jiangsu	2,800.3	141.9	507	2,548.4	105.2	413	251.9	36.7	34.9
Zhejiang	520.6	19.4	373	485.4	14.9	307	35.2	4.5	30.2
Anhui	2,951.8	110.8	375	2,857.7	87.1	305	94.1	23.7	27.2
Fujian	170.8	4.7	276	193.6	4.1	210	-22.8	0.6	14.6
Jiangxi	156.0	2.3	148	174.4	1.9	107	-18.4	0.4	21.1
Shandong	5,014.8	164.8	329	5,264.9	174.0	331	-250.1	-9.2	-5.3
Henan	6,179.9	244.0	395	5,984.5	216.7	362	195.4	27.3	12.6
Hubei	2,012.7	71.6	356	1,910.9	49.7	260	101.8	21.9	44.1
Hunan	324.2	6.5	200	328.9	5.3	162	-4.7	1.2	22.6
Guangdong	148.1	3.3	223	161.2	2.8	176	-13.1	0.5	17.9
Guangxi	31.5	0.4	127	36.5	0.4	110	-5.0	—	—
Sichuan	3,388.5	127.2	376	3,409.1	102.8	301	-20.6	21.4	23.7
Guizhou	385.4	6.0	157	409.1	6.4	157	-23.7	-0.4	6.2
Yunnan	701.3	13.5	192	792.5	14.7	185	-91.2	-1.2	-8.2
Xizang	64.5	2.2	341	67.8	2.6	379	-3.3	-0.4	-15.4
Shaanxi	2,423.7	84.2	347	2,320.8	70.8	305	102.9	13.4	18.9
Gansu	2,195.1	62.1	283	2,088.8	46.4	222	106.3	15.7	33.8
Qinghai	336.1	12.6	375	309.4	10.0	323	26.7	2.6	26.0
Ningxia	433.5	12.3	284	407.3	10.8	265	26.2	1.5	13.9
Xinjiang	1,994.2	46.6	234	2,033.5	44.5	219	-39.3	2.1	4.7

Draft supplied by Planning Department of Ministry of Agriculture, Animal Husbandry and Fishery

Indicators of Tuber Output in Various Provinces, Municipalities, and Autonomous Regions

Area: 10,000 mu
 Unit: Total output: 100 million jin
 Per-mu output: jin

Region	1982			1981			Increase or decrease in 1982 compared with 1981		
	Sown area	Total output	Per-mu output	Sown area	Total output	Per-mu output	Sown area	Total output	Absolute figure
									Percent
National total	14,044.3	533.6	380	14,430.5	519.4	360	-386.2	14.2	2.7
Beijing	10.0	0.3	343	12.6	0.4	319	-2.6	-0.1	-25.0
Tianjin	13.5	0.6	468	10.8	0.4	360	2.7	0.2	50.0
Hebei	661.5	26.5	400	637.0	21.9	343	24.5	4.6	21.0
Shanxi	379.3	12.4	327	356.4	9.3	260	22.9	3.1	33.3
Nei Monggol	364.1	8.3	229	347.6	7.5	216	16.5	0.8	10.7
Liaoning	61.6	1.9	308	59.4	1.8	318	2.2	0.1	5.6
Jilin	139.4	4.3	308	134.6	4.9	363	4.8	-0.6	-12.2
Heilongjiang	338.6	8.7	255	328.1	9.0	273	10.5	-0.3	-3.3
Shanghai	0.2	0.1	...	0.2	...	—	—	0.1	...
Jiangsu	489.0	30.4	621	562.3	31.7	564	-73.3	-1.3	-4.1
Zhejiang	233.3	15.7	673	230.4	14.5	629	2.9	1.2	8.3
Anhui	1,024.4	39.3	383	1,092.5	44.1	404	-68.1	-4.8	-10.9
Fujian	356.6	18.3	514	363.3	18.8	516	-6.7	-0.5	-2.7
Jiangxi	162.9	5.9	362	162.8	5.4	332	0.1	0.5	9.3
Shandong	1,621.4	98.9	610	1,724.8	85.7	497	-103.4	13.2	15.4
Henan	1,348.9	43.7	324	1,511.5	57.0	377	-162.6	-13.3	-23.3
Hubei	564.8	21.4	379	556.4	18.4	330	8.4	3.0	16.3
Hunan	481.5	20.1	117	516.0	18.1	357	-34.5	2.0	11.0
Guangdong	935.6	30.4	325	923.7	27.2	294	11.9	3.2	11.8
Guangxi	344.5	5.4	157	263.5	3.6	137	81.0	1.8	50.0
Sichuan	2,804.4	101.7	363	2,885.0	102.7	356	-80.6	-1.0	-1.0
Guizhou	408.5	10.2	250	399.9	7.6	190	8.6	2.6	34.2
Yunnan	334.4	11.2	335	340.5	10.7	314	-6.1	0.5	4.7
Xizang	0.5	...	188	0.2	...	500	0.3	...	...
Shaanxi	471.3	10.8	229	499.8	9.8	196	-28.5	1.0	10.2
Gansu	374.4	5.4	143	376.2	6.4	170	-1.8	-1.0	-15.6
Qinghai	40.9	0.9	211	45.9	1.1	238	-5.0	-0.2	-18.2
Ningxia	62.9	0.4	53	72.7	0.9	117	-9.8	-0.5	-55.6
Xinjiang	15.9	0.4	252	16.4	0.5	305	-0.5	-0.1	-20.0

Draft supplied by Planning Department of Ministry of Agriculture, Animal Husbandry and Fishery

Indicators of Maize Output in Various Provinces, Municipalities, and Autonomous Regions

Area: 10,000 mu

Unit: Total output: 100 million jin

Per-mu output: jin

Region	1982			1981			Increase or decrease in 1982 compared with 1981		
	Sown area	Total output	Per-mu output	Sown area	Total output	Per-mu output	Sown area	Total output	Absolute figure
									Percent
National total	27,763.2	1,205.9	434	29,137.4	1,184.1	406	-1,374.2	21.8	1.8
Beijing	295.2	17.7	600	296.9	15.7	529	-1.7	2.0	12.7
Tianjin	283.3	13.6	480	271.8	10.9	402	11.5	2.7	24.8
Hebei	3,110.0	145.0	466	3,428.1	129.5	378	-318.1	15.5	12.0
Shanxi	891.3	44.7	502	968.3	48.6	501	-77.0	-3.9	-8.0
Nei Monggol	757.0	21.2	280	887.6	28.5	321	-130.6	-7.3	-25.6
Liaoning	1,733.3	111.6	644	1,901.7	116.4	612	-168.4	-4.8	-4.1
Jilin	2,408.2	117.9	490	2,327.0	105.5	453	81.2	12.4	11.8
Heilongjiang	2,045.1	65.6	321	2,365.5	88.3	373	-320.4	-22.7	-25.7
Shanghai	10.3	0.8	807	9.5	0.6	670	0.8	0.2	33.3
Jiangsu	725.0	38.9	537	667.4	34.7	520	57.6	4.2	12.1
Zhejiang	94.5	3.7	392	97.5	3.2	328	-3.0	0.5	15.6
Anhui	184.0	5.5	297	223.7	7.9	354	-39.7	-2.4	-30.4
Fujian	2.2	...	118	2.4	...	104	-0.2	—	—
Jiangxi	10.7	0.2	196	10.5	0.2	172	0.2	—	—
Shandong	3,250.8	169.6	522	3,301.1	158.8	481	-50.3	10.8	6.8
Henan	2,397.6	87.3	364	2,544.8	96.1	378	-147.2	-8.8	-9.2
Hubei	642.1	21.7	337	623.6	20.5	329	18.5	1.2	5.9
Hunan	179.5	3.8	212	198.3	4.2	209	-18.8	-0.4	-9.5
Guangdong	62.5	1.4	218	64.5	1.3	206	-2.0	0.1	7.7
Guangxi	819.7	24.4	298	853.7	24.0	281	-34.0	0.4	1.7
Sichuan	2,649.9	122.5	463	2,684.6	118.8	442	-34.7	3.7	3.1
Guizhou	1,001.2	38.7	386	1,024.2	36.5	356	-23.0	2.2	6.0
Yunnan	1,572.4	55.6	354	1,629.9	53.9	331	-57.5	1.7	3.2
Xizang	2.7	0.1	395	1.9	0.1	466	0.8	—	—
Shaanxi	1,481.6	56.5	381	1,511.0	40.5	268	-29.4	16.0	39.5
Gansu	400.2	12.2	305	450.6	13.5	300	-50.4	-1.3	-9.6
Qinghai	—	—	—	—	—	—	—	—	—
Ningxia	30.6	1.1	374	36.4	1.3	362	-5.8	-0.2	-15.4
Xinjiang	722.3	24.6	341	754.9	24.6	326	-32.6	—	—

Draft supplied by Planning Department of Ministry of Agriculture, Animal Husbandry and Fishery

Indicators of Gaoliang Output in Various Provinces, Municipalities, and Autonomous Regions

Area: 10,000 mu
 Unit: Total output: 100 million jin
 Per-mu output: jin

Region	1982			1981			Increase or decrease in 1982 compared with 1981		
	Sown area	Total output	Per-mu output	Sown area	Total output	Per-mu output	Sown area	Total output	Absolute figure
									Percent
National total	4,175.0	139.4	334	3,915.1	133.0	340	259.9	6.4	4.8
Beijing	22.6	1.0	431	15.3	0.5	327	7.3	0.5	100.0
Tianjin	90.7	2.6	287	81.9	1.9	232	8.8	0.7	36.8
Hebei	514.3	16.9	329	461.8	13.2	286	52.5	3.7	28.0
Shanxi	347.6	19.3	555	304.5	15.3	502	43.1	4.0	26.1
Nei Monggol	321.3	7.1	221	471.2	5.9	218	50.1	1.2	20.3
Liaoning	968.3	45.2	467	892.4	43.5	487	75.9	1.7	3.9
Jilin	469.6	12.5	266	413.3	14.0	338	56.3	-0.3	10.7
Heilongjiang	434.9	10.8	249	442.8	13.0	298	-7.9	-2.2	-16.9
Shanghai	0.1	...	430	0.1	...	—	—	—	—
Jiangsu	23.7	0.9	350	25.9	0.6	251	-2.2	0.3	50.0
Zhejiang	—	—	—	—	—	—	—	—	—
Anhui	139.7	1.9	134	153.4	3.1	202	-13.7	-1.2	-38.7
Fujian	2.0	0.1	452	1.4	0.1	511	0.6	—	—
Jiangxi	1.1	...	311	0.9	...	233	0.2	—	—
Shandong	219.4	5.2	237	266.6	5.2	195	-47.2	—	—
Henan	204.3	2.7	132	180.3	3.3	186	24.0	-0.6	-18.2
Hubei	19.5	0.6	292	20.2	0.6	306	-0.7	—	—
Hunan	15.2	0.3	194	15.6	0.3	222	-0.4	—	—
Guangdong	2.0	...	99	1.8	...	109	0.2	—	—
Guangxi	2.9	...	90	2.8	...	76	0.1	—	—
Sichuan	137.3	6.0	434	122.0	6.0	494	15.3	—	—
Guizhou	13.8	0.3	181	13.0	0.2	145	0.8	0.1	50.0
Yunnan	6.9	0.1	145	7.7	0.2	260	-0.8	-0.1	-50.0
Xizang	—	—	—	—	—	—	—	—	—
Shaanxi	98.3	2.7	275	92.6	2.4	259	5.7	0.3	12.5
Gansu	53.5	1.1	187	56.7	1.5	265	-3.2	-0.4	-26.7
Qinghai	—	—	—	—	—	—	—	—	—
Ningxia	5.1	0.3	567	8.9	0.5	533	-3.8	-0.2	-40
Xinjiang	60.9	1.8	296	62.0	1.7	269	-1.1	0.1	5.9

Draft supplied by Planning Department of Ministry of Agriculture, Animal Husbandry and Fishery

Indicators of Millet Output in Various Provinces, Municipalities, and Autonomous Regions

Area: 10,000 mu
 Unit: Total output: 100 million jin
 Per-mu output: jin

Region	1982			1981			Increase or decrease in 1982 compared with 1981		
	Sown area	Total output	Per-mu output	Sown area	Total output	Per-mu output	Sown area	Total output	
							Absolute figure	Percent	
National total	6,058.0	131.6	217	5,833.8	115.3	198	224.2	16.3	14.1
Beijing	19.5	0.6	286	18.2	0.6	307	1.3	—	—
Tianjin	15.9	0.4	269	16.0	0.3	209	-0.1	0.1	33.3
Hebei	1,050.0	31.5	300	888.2	22.5	254	161.8	9.0	40.0
Shanxi	814.5	25.8	317	781.3	19.3	247	33.2	6.5	33.7
Nei Monggol	855.1	14.2	166	801.2	12.0	150	53.9	2.2	18.3
Liaoning	408.6	5.9	143	317.0	4.5	141	91.6	1.4	31.1
Jilin	628.3	13.3	212	646.7	12.9	199	-18.4	0.4	3.1
Heilongjiang	1,083.9	17.5	162	1,153.8	19.9	173	-69.9	-2.4	-12.1
Shanghai	—	—	—	—	—	—	—	—	—
Jiangsu	0.2	...	291	0.5	...	210	-0.3	...	...
Zhejiang	—	—	—	—	—	—	—	—	—
Anhui	7.3	0.1	169	10.3	0.2	220	-3.0	-0.1	-50.0
Fujian	0.3	...	90	0.6	...	89	-0.3	...	...
Jiangxi	2.7	0.1	178	2.2	...	127	0.5	0.1	...
Shandong	225.3	8.0	368	217.4	6.0	277	7.9	2.0	33.3
Henan	401.6	7.7	191	392.4	8.8	225	9.2	-1.1	-12.5
Hubei	12.5	0.3	232	13.5	0.3	209	-1.0	—	—
Hunan	—	—	—	—	—	—	—	—	—
Guangdong	4.4	0.1	227	6.5	0.1	124	-2.1	—	—
Guangxi	7.4	0.1	135	9.2	0.1	109	-1.8	—	—
Sichuan	—	—	—	—	—	—	—	—	—
Guizhou	11.9	0.2	129	12.8	0.2	125	-0.9	—	—
Yunnan	—	—	—	—	—	—	—	—	—
Xizang	—	—	—	—	—	—	—	—	—
Shaanxi	309.7	4.2	136	340.0	5.0	147	-30.3	-0.8	-16.0
Gansu	148.9	1.6	107	149.0	2.2	148	-0.1	-0.6	-27.3
Qinghai	—	—	—	—	—	—	—	—	—
Ningxia	45.5	...	12	51.9	0.4	82	-6.4	-0.4	—
Xinjiang	4.5	...	67	5.1	...	95	-0.6	...	...

Draft supplied by Planning Department of Ministry of Agriculture, Animal Husbandry and Fishery

Indicators of Soybean Output in Various Provinces, Municipalities, and Autonomous Regions

Area: 10,000 mu
Unit: Total output: 100 million jin
Per-mu output: jin

Region	1982			1981			Increase or decrease in 1982 compared with 1981		
	Sown area	Total output	Per-mu output	Sown area	Total output	Per-mu output	Sown area	Total output	Absolute figure
									Percent
National total	12,621.5	180.6	143	12,035.3	186.5	155	586.2	- 5.9	- 3.2
Beijing	13.9	0.3	194	12.0	0.2	191	1.9	0.1	50.0
Tianjin	34.8	0.5	140	37.4	0.5	135	- 2.6	—	—
Hebei	408.7	6.0	147	435.3	6.1	141	- 26.6	- 0.1	- 1.6
Shanxi	239.2	3.5	146	193.8	2.5	126	45.4	1.0	40.0
Nei Monggol	353.4	4.9	138	291.0	3.9	133	62.4	1.0	25.6
Liaoning	687.6	11.6	168	692.1	12.5	180	- 4.5	- 0.9	- 7.2
Jilin	880.5	14.3	163	907.9	15.8	174	- 27.4	- 1.5	- 9.5
Heilongjiang	3,203.3	52.1	163	2,699.6	40.3	149	503.7	11.8	29.3
Shanghai	2.7	0.1	457	2.3	0.1	537	0.4	—	—
Jiangsu	507.7	9.7	192	487.9	9.5	195	19.8	0.2	2.1
Zhejiang	111.4	2.6	233	106.2	2.3	217	5.2	0.3	13.0
Anhui	1,172.1	12.5	107	1,106.4	18.1	163	65.7	- 5.6	- 30.9
Fujian	124.1	2.1	166	118.0	1.8	155	6.1	0.3	16.7
Jiangxi	209.3	3.1	147	184.7	2.2	120	24.6	0.9	40.9
Shandong	907.6	14.7	162	1,078.8	16.6	154	- 171.2	- 1.9	- 11.5
Henan	1,718.0	14.9	87	1,790.6	30.8	172	- 72.6	- 15.9	- 51.6
Hubei	243.5	3.2	131	241.8	3.5	145	1.7	- 0.3	- 8.6
Hunan	246.2	4.1	167	208.7	3.3	158	37.5	0.8	24.2
Guangdong	230.4	2.9	126	210.1	2.4	118	20.3	0.5	20.8
Guangxi	409.7	4.3	105	327.4	2.8	85	82.3	1.5	53.6
Sichuan	256.4	5.2	201	257.4	4.5	178	- 1.0	0.7	15.6
Guizhou	181.5	2.0	112	178.0	2.0	114	3.5	—	—
Yunnan	81.7	1.7	208	72.4	1.5	207	9.3	0.2	13.3
Xizang	0.1	—	—	0.8	...	125	- 0.7	—	—
Shaanxi	289.6	2.7	93	301.2	2.1	70	- 11.6	0.6	28.6
Gansu	51.4	0.7	78	49.8	0.7	141	1.6	—	—
Qinghai	—	—	—	—	—	—	—	—	—
Ningxia	29.8	0.4	126	24.2	0.2	85	5.6	0.2	100.0
Xinjiang	26.9	0.5	186	19.5	0.3	166	7.4	0.2	66.7

Draft supplied by Planning Department of Ministry of Agriculture, Animal Husbandry and Fishery

Indicators of Cotton Output in Various Provinces, Municipalities, and Autonomous Regions

Area: 10,000 mu

Unit: Total output: 100 million jin
Per-mu output: jin

Region	1982			1981			Increase or decrease in 1982 compared with 1981		
	Sown area	Total output	Per-mu output	Sown area	Total output	Per-mu output	Sown area	Total output	Absolute figure
									Percent
National total	8,742.6	7,196.9	82	7,777.6	5,935.3	76	965.0	1,261.6	21.3
Beijing	3.0	2.1	67	3.2	1.4	45	-0.2	0.7	50.0
Tianjin	15.7	9.0	58	14.8	4.5	30	0.9	4.5	100.0
Hebei	1,048.2	771.6	74	795.7	443.3	56	252.5	328.3	74.1
Shanxi	333.6	241.6	72	305.3	132.0	43	28.3	109.6	83.0
Nei Monggol	...	...	...	—	—	—	—	—	—
Liaoning	69.7	46.6	67	58.7	44.0	75	11.0	2.6	5.9
Jilin	—	—	—	—	—	—	—	—	—
Heilongjiang	—	—	—	—	—	—	—	—	—
Shanghai	162.0	161.1	99	176.7	148.7	84	-14.7	12.4	8.3
Jiangsu	1,020.3	1,150.9	113	994.1	1,126.9	113	26.2	24.0	2.1
Zhejiang	160.1	195.2	122	161.9	136.3	84	-1.8	58.9	43.2
Anhui	491.8	315.3	64	493.6	312.8	63	-1.8	2.5	0.8
Fujian	—	—	—	...	...	...	—	—	—
Jiangxi	151.4	131.2	87	157.0	93.8	60	-5.6	37.4	39.9
Shandong	2,008.6	1,920.0	96	1,406.4	1,350.0	96	602.2	570.0	42.2
Henan	1,130.5	652.5	58	962.4	710.1	74	168.1	-57.6	-8.1
Hubei	860.6	682.0	79	869.7	705.4	81	-9.1	-23.4	-3.3
Hunan	251.9	196.1	78	256.7	187.6	73	-4.8	8.5	1.5
Guangdong	—	—	—	—	—	—	—	—	—
Guangxi	4.9	1.4	29	4.4	1.3	30	0.5	0.1	7.7
Sichuan	205.3	164.5	80	359.5	173.4	48	-154.2	-8.9	-5.1
Guizhou	4.6	1.4	30	4.3	1.2	29	0.3	0.2	16.7
Yunnan	5.8	1.8	31	6.6	2.4	36	0.8	-0.6	-25.0
Xizang	—	—	—	—	—	—	—	—	—
Shaanxi	377.4	251.0	67	390.3	125.0	32	-12.9	126.0	100.8
Gansu	9.5	9.4	99	8.4	8.0	95	1.1	1.4	17.5
Qinghai	—	—	—	—	—	—	—	—	—
Ningxia	—	—	—	—	—	—	—	—	—
Xinjiang	427.7	292.2	68	347.9	227.2	65	79.8	65.0	28.6

Draft supplied by Planning Department of Ministry of Agriculture, Animal Husbandry and Fishery

Indicators of Plant Oil Output in Various Provinces, Municipalities, and Autonomous Regions

Area: 10,000 mu
 Unit: Total output: 100 million jin
 Per-mu output: jin

Region	1982			1981			Increase or decrease in 1982 compared with 1981		
	Sown area	Total output	Per-mu output	Sown area	Total output	Per-mu output	Sown area	Total output	Absolute figure
									Percent
National total	14,014.6	23,634.6	169	13,701.2	20,410.4	149	313.4	3,224.2	15.8
Beijing	35.8	45.6	127	41.1	44.5	109	-5.3	1.1	2.5
Tianjin	59.6	88.6	149	65.6	90.1	137	-6.0	-1.5	-1.7
Hebei	734.6	1,075.9	146	742.0	928.8	125	-7.4	147.1	15.8
Shanxi	359.5	424.3	118	344.3	241.9	70	15.2	182.4	75.4
Nei Monggol	739.7	979.6	132	703.1	725.5	103	36.6	254.1	35.0
Liaoning	363.8	494.9	136	480.6	612.2	127	-116.8	-117.3	-19.2
Jilin	288.8	585.4	203	348.5	690.4	198	-59.7	-105.0	-15.2
Heilongjiang	397.3	900.0	226	472.7	888.3	188	-75.4	11.7	1.3
Shanghai	107.9	333.5	309	108.8	293.7	270	-0.9	39.8	13.6
Jiangsu	742.6	1,837.1	247	602.5	1,282.1	213	140.1	555.0	43.3
Zhejiang	380.5	772.3	203	448.4	799.9	178	-67.9	-27.6	-3.5
Anhui	1,379.7	2,509.7	182	1,162.4	1,986.8	171	217.3	522.9	26.3
Fujian	202.9	401.3	198	203.5	370.0	182	-0.6	31.3	8.5
Jiangxi	555.4	519.9	94	540.8	396.7	73	14.6	123.2	31.1
Shandong	981.0	2,849.9	291	1,063.8	2,842.8	267	-82.8	7.1	0.2
Henan	1,064.0	883.2	83	1,116.7	1,119.8	100	-52.7	-236.6	-21.1
Hubei	821.5	1,149.4	140	650.1	785.8	121	171.4	363.6	46.3
Hunan	668.5	915.2	137	639.2	715.1	112	29.3	200.1	28.0
Guangdong	714.2	1,331.2	186	712.9	1,220.3	171	1.3	110.9	9.1
Guangxi	267.3	348.7	130	249.8	284.7	114	17.5	64.0	22.5
Sichuan	1,162.6	2,712.7	233	1,049.4	1,950.1	186	113.2	762.6	39.1
Guizhou	547.1	962.1	176	468.1	679.3	145	79.0	282.8	41.6
Yunnan	223.8	276.2	123	199.3	214.2	107	24.5	62.0	28.9
Xizang	17.2	22.1	128	16.7	23.8	120	0.5	-1.7	7.1
Shaanxi	254.4	318.5	125	300.1	336.1	112	-45.7	-17.6	-5.2
Gansu	330.7	285.4	86	299.5	263.7	88	31.2	21.7	8.2
Qinghai	116.8	147.4	126	118.6	126.9	107	-1.8	20.5	16.2
Ningxia	113.9	55.5	49	122.5	75.5	62	-8.6	-20.0	-26.5
Xinjiang	383.5	409.0	107	430.2	421.4	98	-46.7	-12.4	-2.9

Draft supplied by Planning Department of Ministry of Agriculture, Animal Husbandry and Fishery

Forestry

Afforested Area and Areas of Different Forests in Various Provinces, Municipalities, and Autonomous Regions

Unit: 10,000 mu

Region	Afforested area	Timber forest	Economic forest	Shelter forest	Firewood and charcoal forest	Other types of forest
National total	6,743.4	3,945.9	979.2	1,291.4	333.5	193.4
Beijing	42.2	25.1	2.1	9.2	2.0	3.8
Tianjin	4.5	3.6	0.1	0.3	—	0.5
Hebei	298.6	203.0	25.2	47.6	7.7	15.1
Shanxi	411.0	214.7	34.8	153.9	4.4	3.2
Nei Monggol	774.7	271.5	43.4	405.3	31.9	22.6
Liaoning	357.7	192.9	20.6	99.0	40.4	4.8
Jilin	313.0	192.3	1.9	94.9	9.9	14.0
Heilongjiang	399.6	225.3	6.0	77.1	81.8	9.4
Shanghai	0.2	—	—	0.2	—	—
Jiangsu	25.0	17.6	1.3	5.4	—	0.7
Zhejiang	132.6	88.7	22.5	1.0	11.5	8.9
Anhui	129.2	103.1	18.3	1.5	3.3	3.0
Fujian	223.8	146.2	36.1	12.5	27.3	1.7
Jiangxi	240.5	110.2	98.1	2.2	21.0	9.0
Shandong	99.8	59.8	18.9	17.5	1.1	2.5
Henan	205.3	129.6	50.4	10.9	5.1	9.3
Hubei	287.1	185.5	84.3	2.3	3.3	11.7
Hunan	280.3	189.2	67.4	4.0	13.7	6.0
Guangdong	480.0	381.1	39.3	15.4	20.9	23.3
Guangxi	255.2	144.0	95.1	2.6	0.1	13.4
Sichuan	337.4	241.6	69.2	5.6	12.6	8.1
Guizhou	332.6	263.1	63.2	2.3	—	4.0
Yunnan	294.7	201.4	80.3	1.4	7.2	4.4
Xizang	2.2	2.2	—	—	—	—
Shaanxi	577.8	240.1	86.7	241.0	3.5	6.5
Gansu	144.7	93.9	11.3	30.2	4.3	5.0
Qinghai	17.2	4.7	0.1	7.5	4.9	—
Ningxia	31.7	8.0	0.2	19.7	3.6	0.2
Xinjiang	44.8	7.5	2.4	20.9	12.0	2.0

Draft supplied by Planning Department of Ministry of Forestry

Animal Husbandry

Indicators of National Livestock Output

	Unit	1982	1981	Increase or decrease in 1982 compared with 1981	
				Absolute figure	Percent
I. Output of animal products					
A. Meat output					
1. Number of pigs slaughtered in current year	10,000 head	20,062.7	19,494.7	568.0	2.9
Proportion of pigs slaughtered	percent	68.3	63.8	—	—
2. Number of cattle sold or slaughtered for personal use in current year	10,000 head	309.6	301.6	8.0	2.7
3. Number of sheep sold or slaughtered for personal use in current year	"	4,874.2	4,481.4	392.8	8.8
4. Pork, beef, and mutton output	10,000 jin	2,701,593.0	2,521,749.0	179,844.0	7.1
Pork output	"	2,543,694.7	2,376,852.7	166,842.0	7.0
Beef output	"	53,112.6	49,682.4	3,430.2	6.9
Mutton output	"	104,785.7	95,213.9	9,571.8	10.1
B. Wool output					
Sheep wool	"	40,367.3	37,812.4	2,554.9	6.8
of which: Fine wool and improved wool	"	17,677.5	14,944.3	2,733.2	18.3
Medium wool and improved wool	"	8,343.9	7,899.5	444.4	5.6
Goat wool	"	2,548.1	2,517.0	31.1	1.2
Fabrics from goat wool	"	766.5	752.4	14.1	1.9
C. Milk output					
Cow milk	"	323,670.4	258,121.4	65,549.0	25.4
Goat milk	"	68,275.7	51,570.2	16,705.5	32.4
D. Egg output					
E. Honey output	"	561,709.5	—	5,122.6	23.2
		27,194.2	22,071.6		

[Continuation of Indicators of National Livestock Output]

	Unit	1982	1981	Increase or decrease in 1982 compared with 1981	
				Absolute figure	Percent
II. Yearend inventory of large animals	10,000	10,112.7	9,764.1	348.6	3.6
Of which: Farm draft animals	"	5,833.3	5,470.5	362.8	6.6
Brood cattle	"	3,307.0	3,044.3	262.3	8.6
1. Yearend number of cows in inventory	"	7,607.3	7,330.1	277.2	3.8
Brood cows	"	2,595.8	2,390.1	205.7	8.6
Yellow cattle	"	5,611.2	5,383.3	227.9	4.2
Water buffalo	"	1,914.4	1,877.0	37.4	2.0
Fine breed and improved-breed milk cows	"	81.7	69.8	11.9	17.0
2. Horses	"	1,098.1	1,097.2	0.9	0.1
3. Donkeys	"	899.9	841.5	58.4	6.9
4. Mules	"	446.4	432.5	13.9	3.2
5. Camels	"	61.0	62.8	-1.8	-2.9
III. Yearend inventory of pigs	"	30,078.3	29,370.2	708.1	2.4
Brood sows	"	2,256.2	2,061.6	194.6	9.4
IV. Yearend inventory of sheep	"	18,179.0	18,773.0	-594.0	-3.2
1. Goats	"	7,522.2	7,826.4	-304.2	-3.9
2. Sheep	"	10,656.8	10,946.6	-289.8	-2.6
of which: total fine-wool, medium wool, and their improved breeds	"	3,780.2	3,732.6	47.6	1.3
Fine-wool sheep and their improved breeds	"	2,481.1	2,288.9	192.2	8.4
Medium-wool sheep and their improved breeds	"	1,299.1	1,443.7	-144.6	-10.0
3. Brood sheep	"	8,845.4	8,933.4	-88.0	-1.0
V. Bees (swarms)	"	687.5	633.5	54.0	8.5

Draft supplied by Planning Department of Ministry of Agriculture, Animal Husbandry and Fishery

Increase in Number of Pigs in Various Provinces, Municipalities, and Autonomous Regions

Unit: 10,000 head

Region	Yearend inventory number of pigs				Number of pigs removed from inventory in current year				Proportion of slaughtered pigs (percent)	
	1982	1981	Increase or decrease in 1982 compared with 1981		1982	1981	Increase or decrease in 1982 compared with 1981			
			Absolute figure	Percent			Absolute figure	Percent		
National total	30,078.3	29,370.2	708.1	2.4	20,062.7	19,494.7	568.0	2.9	68.3	
Beijing	206.4	210.9	-4.5	-2.1	212.4	216.8	-4.4	-2.0	100.7	
Tianjin	74.8	84.3	-9.5	-11.3	76.3	84.7	-8.4	-9.9	90.5	
Hebei	1,227.1	1,216.5	10.6	0.9	756.0	743.8	12.2	1.6	62.2	
Shanxi	403.1	453.1	-50.0	-11.0	262.2	302.9	-40.7	-13.4	57.9	
Nei Monggol	460.9	468.3	-7.4	-1.6	234.8	227.1	7.7	3.4	50.1	
Liaoning	1,069.9	1,046.3	23.6	2.3	711.3	664.3	47.0	7.1	68.0	
Jilin	518.9	548.0	-29.1	-5.3	347.7	328.2	19.5	5.9	63.5	
Heilongjiang	608.6	615.4	-6.8	-1.1	369.5	396.7	-27.2	-6.9	60.0	
Shanghai	260.9	266.2	-5.3	-2.0	373.4	331.0	42.4	12.8	140.3	
Jiangsu	1,978.0	1,935.2	42.8	2.2	2,029.5	1,887.6	141.9	7.5	104.9	
Zhejiang	1,383.2	1,344.7	38.5	2.9	1,255.8	1,262.3	-6.5	-0.5	93.4	
Anhui	1,031.1	1,034.0	-2.9	-0.3	675.8	649.7	26.1	4.0	65.4	
Fujian	734.0	696.3	37.7	5.4	433.7	415.1	18.6	4.5	62.3	
Jiangxi	1,023.3	1,006.6	16.7	1.7	713.7	714.3	-0.6	-0.1	70.9	
Shandong	1,726.2	1,901.1	-174.9	-9.2	1,213.2	1,296.8	-83.6	-6.4	63.8	
Henan	1,310.3	1,386.5	-76.2	-5.5	661.8	611.7	50.1	8.2	47.7	
Hubei	1,608.6	1,514.6	94.0	6.2	1,048.7	996.9	51.8	5.2	69.2	
Hunan	2,078.1	1,963.5	114.6	5.8	1,738.2	1,705.4	32.8	1.9	88.5	
Guangdong	2,172.8	1,970.8	202.0	10.2	1,110.5	1,050.4	60.1	5.7	56.4	
Guangxi	1,284.2	1,125.3	158.9	14.1	610.2	514.7	95.5	18.6	54.2	
Sichuan	5,190.0	5,022.9	167.1	3.3	3,375.6	3,327.0	48.6	1.5	67.2	
Guizhou	945.1	902.5	42.6	4.7	487.3	451.6	35.7	7.9	54.0	
Yunnan	1,545.7	1,374.7	171.0	12.4	601.7	531.9	69.8	13.1	43.8	
Xizang	15.4	15.8	-0.4	-2.5	5.0	4.9	0.1	2.0	31.7	
Shaanxi	639.7	666.5	-26.8	-4.0	370.5	403.2	-32.7	-8.1	55.6	
Gansu	395.7	409.0	-13.3	-3.3	274.2	254.2	20.0	7.9	67.0	
Qinghai	68.2	56.6	1.6	2.4	35.9	35.5	0.4	1.1	53.9	
Ningxia	48.1	51.8	-3.7	-7.1	32.4	30.8	1.6	5.2	62.6	
Xinjiang	70.0	72.8	-2.8	-3.8	45.4	55.2	-9.8	-17.8	62.4	

Draft supplied by Planning Department of Ministry of Agriculture, Animal Husbandry and Fishery

Increase in Output of Pork, Beef, and Mutton in Various Provinces, Municipalities, and Autonomous Regions

Unit: 10,000 jin

Region	Output of pork, beef, and mutton				Pork output			
	1982	1981	Increase or decrease in 1982 compared with 1981 Absolute figure	Increase or decrease in 1982 compared with 1981 Percent	1982	1981	Increase or decrease in 1982 compared with 1981 Absolute figure	Increase or decrease in 1982 compared with 1981 Percent
National total	8,701,593.0	2,521,749.0	179,844.0	7.1	2,543,694.7	2,376,852.7	166,842.0	7.0
Beijing	27,648.7	26,343.6	1,305.1	5.0	27,261.0	26,034.1	1,226.9	4.7
Tianjin	10,931.7	11,582.0	-650.3	-5.6	10,605.7	11,285.0	-679.3	-6.0
Hebei	97,265.0	95,658.8	1,606.2	1.7	91,935.0	90,449.0	1,486.0	1.6
Shanxi	37,313.3	41,072.6	-3,759.3	-9.2	34,093.2	38,108.4	-4,015.2	-10.5
Nei Monggol	54,774.8	47,715.0	7,059.8	14.8	32,429.6	28,710.4	3,719.2	13.0
Liaoning	112,024.0	98,263.0	13,761.0	14.0	110,239.0	96,868.0	13,371.0	13.8
Jilin	56,557.7	50,228.8	6,328.9	12.6	53,910.8	47,975.2	5,935.6	12.4
Heilongjiang	59,859.7	65,305.8	-5,446.1	-8.3	55,266.3	61,338.1	-6,071.8	-9.9
Shanghai	40,920.2	33,983.0	6,937.2	20.4	40,637.0	33,780.0	6,857.0	20.3
Jiangsu	249,593.0	211,895.0	37,698.0	17.8	244,114.7	206,262.7	37,851.4	18.4
Zhejiang	134,190.7	125,564.3	8,626.4	6.9	132,481.0	124,005.6	8,475.4	6.8
Anhui	109,434.7	97,322.4	12,112.3	12.4	103,361.2	91,790.2	11,571.0	12.6
Fujian	60,593.4	55,216.3	5,377.1	9.7	59,507.4	54,094.2	5,413.2	10.0
Jiangxi	84,946.9	79,283.7	5,663.2	7.1	84,519.0	78,570.8	5,948.2	7.6
Shandong	189,967.0	192,515.0	-2,548.0	-1.3	178,964.0	182,758.0	-3,794.0	-2.1
Henan	103,100.3	96,468.7	6,631.6	6.9	95,143.7	88,550.0	6,593.7	7.4
Hubei	120,425.5	107,928.3	12,497.2	11.6	118,369.0	105,776.0	12,593.0	11.9
Hunan	199,584.9	199,440.6	144.3	0.1	197,343.9	197,413.0	-69.1	-0.03
Guangdong	166,441.0	149,635.0	16,806.0	11.2	164,394.0	147,948.0	16,446.0	-11.1
Guangxi	102,243.2	86,538.0	15,705.2	18.1	100,727.8	85,180.6	15,547.2	18.3
Sichuan	394,946.0	378,169.0	16,777.0	4.4	380,458.0	363,702.0	16,756.0	4.6
Guizhou	69,369.7	63,233.1	6,136.3	9.7	67,112.9	60,918.7	6,194.2	10.2
Yunnan	78,786.0	70,340.3	8,145.7	12.0	75,292.6	67,175.8	8,116.8	12.1
Xizang	12,104.2	11,379.5	724.7	6.4	403.8	356.0	47.8	13.4
Shaanxi	46,986.1	51,346.5	-4,360.4	-8.5	44,489.9	49,386.6	-4,896.7	-9.9
Gansu	31,300.7	28,236.1	3,064.6	10.9	26,918.6	24,617.0	2,301.6	9.3
Qinghai	17,402.8	16,818.6	584.2	3.5	4,437.8	4,118.0	319.8	7.8
Ningxia	4,633.2	3,945.5	687.7	17.4	3,387.0	3,077.8	309.2	10.0
Xinjiang	28,248.6	26,320.2	1,928.4	7.3	5,891.4	6,603.5	-712.1	-10.8

[Continuation of Increase in Output of Pork, Beef, and Mutton in Various Provinces, Municipalities, and Autonomous Regions]

Region	Beef output				Mutton output			
	1982	1981	Increase or decrease in 1982 compared with 1981		1982	1981	Increase or decrease in 1982 compared with 1981	
			Absolute figure	Percent			Absolute figure	Percent
National total	53,112.6	49,682.4	3,430.2	6.9	104,785.7	95,213.9	9,571.8	10.1
Beijing	61.8	47.9	13.9	29.0	325.9	261.6	64.3	24.6
Tianjin	40.0	60.0	-20.0	-33.3	286.0	237.0	49.0	20.7
Hebei	482.0	809.9	-327.9	-40.5	4,848.0	4,399.9	448.1	10.2
Shanxi	404.6	396.9	7.7	1.9	2,815.5	2,567.3	248.2	9.7
Nei Monggol	6,777.2	6,229.9	547.3	8.8	15,568.0	12,774.7	2,793.3	21.9
Liaoning	1,004.0	923.0	81.0	8.8	781.0	472.0	309.0	65.5
Jilin	1,986.5	1,714.5	272.0	15.9	660.4	539.0	121.3	22.5
Heilongjiang	2,110.6	2,330.4	-219.8	-9.4	2,482.8	1,637.3	845.5	51.6
Shanghai	120.0	47.0	73.0	155.3	163.2	156.0	7.2	4.6
Jiangsu	772.2	665.3	106.9	16.1	4,706.7	4,967.0	-260.3	-5.2
Zhejiang	693.1	550.1	143.0	26.0	1,016.6	1,008.6	8.0	0.8
Anhui	1,409.6	1,030.2	379.4	36.8	4,663.9	4,502.0	161.9	3.6
Fujian	418.7	434.0	-15.3	-3.5	667.3	688.1	-20.8	-3.0
Jiangxi	352.7	566.6	-213.9	-37.8	75.2	146.3	-71.1	-48.6
Shandong	2,404.0	2,447.0	-43.0	-1.8	8,599.0	7,310.0	1,289.0	17.6
Henan	1,036.9	1,203.2	-166.3	-13.8	6,919.7	6,715.5	204.2	3.0
Hubei	641.4	782.2	-140.8	-18.0	1,415.1	1,370.1	45.0	3.3
Hunan	1,530.2	1,206.3	323.9	26.9	710.8	821.3	-110.5	-13.5
Guangdong	1,714.0	1,400.0	314.0	22.4	333.0	287.0	46.0	16.0
Guangxi	1,162.3	1,001.6	160.7	16.0	353.1	355.8	-2.7	-0.8
Sichuan	7,675.0	7,319.0	356.0	4.9	6,813.0	7,148.0	-335.0	-4.7
Guizhou	787.5	672.2	115.3	17.2	1,469.3	1,642.5	-173.2	-10.5
Yunnan	1,852.9	1,794.2	58.7	3.3	1,640.5	1,370.3	270.2	19.7
Xizang	5,233.7	4,612.0	621.7	13.5	6,466.7	6,411.5	55.2	0.9
Shaanxi	465.9	469.9	-4.0	-0.9	2,030.3	1,490.0	540.3	36.3
Gansu	1,030.7	1,081.5	-50.8	-4.7	3,351.4	2,537.6	813.8	32.1
Qinghai	4,592.5	4,620.0	-27.5	-0.6	8,372.5	8,080.6	291.9	3.6
Ningxia	79.8	69.6	10.2	14.7	1,166.4	798.1	368.3	46.1
Xinjiang	6,272.8	5,198.0	1,074.8	20.7	16,084.4	14,518.7	1,565.7	10.8

Draft supplied by Planning Department of Ministry of Agriculture, Animal Husbandry and Fishery

Commune- and Brigade-Run Enterprises

Gross Income of Commune- and Brigade-Run Enterprises in Various Provinces, Municipalities, and Autonomous Regions

Unit: 100 million yuan

Region	Total gross income	Classified by organizational affiliations		Classified by national economic sectors						
		Commune-run enterprises	Brigade-run enterprises	Agricultural enterprises	Of which:		Industrial enterprises	Communications transportation enterprises	Construction enterprises	Other enterprises
				Crop-farming	Breeding					
National total	771.77	438.23	333.54	10.06	27.85	12.21	576.90	29.18	75.09	50.54
Beijing	18.08	10.85	7.23	0.27	0.03	0.24	15.41	0.31	1.69	0.40
Tianjin	13.35	4.49	8.86	0.03	0.01	0.02	12.64	0.05	0.56	0.07
Hebei	39.08	15.24	23.84	2.72	2.44	0.28	29.56	1.63	2.61	2.56
Shanxi	19.88	7.06	12.82	1.25	1.04	0.21	15.15	1.99	0.95	0.54
Nei Monggol	4.75	2.92	1.83	0.58	0.30	0.28	3.01	0.19	0.62	0.35
Liaoning	36.79	22.75	14.04	1.53	0.67	0.86	27.92	0.73	4.15	2.46
Jilin	11.56	6.25	5.31	1.69	1.31	0.38	7.15	0.37	1.06	1.29
Heilongjiang	14.06	8.85	5.21	1.29	0.77	0.52	10.05	0.46	1.38	0.88
Shanghai	40.80	25.79	15.01	—	—	40.80	—	—	—	—
Jiangsu	134.69	87.84	46.85	1.52	0.76	0.76	117.90	3.56	8.52	3.19
Zhejiang	65.56	38.58	26.98	1.99	1.46	0.53	56.82	1.08	4.75	0.92
Anhui	15.56	9.46	6.10	0.73	0.43	0.30	10.80	0.98	1.66	1.39
Fujian	21.76	10.49	11.27	2.46	1.70	0.76	12.02	1.01	4.89	1.38
Jiangxi	16.91	10.83	6.08	0.94	0.63	0.31	10.58	1.29	2.43	1.67
Shandong	81.44	38.90	42.54	7.61	4.92	2.69	54.74	3.79	8.97	6.33
Henan	34.02	14.56	19.46	1.44	1.34	0.10	24.53	1.99	3.44	2.62
Hubei	28.88	17.31	11.57	2.89	1.77	1.12	19.44	1.18	2.18	3.19
Hunan	35.20	20.99	14.21	3.86	3.25	0.61	20.48	2.24	3.68	4.94
Guangdong	62.92	35.60	27.32	3.68	2.20	1.48	41.38	2.15	8.12	7.29
Guangxi	9.91	6.17	3.74	0.64	0.51	0.13	6.08	0.44	1.26	1.19
Sichuan	31.21	24.93	9.28	1.21	0.95	0.26	22.20	1.63	4.29	4.88
Guizhou	2.97	2.10	0.87	0.09	0.08	0.01	2.08	0.30	0.35	0.15
Yunnan	8.25	4.36	3.89	0.32	0.27	0.05	3.99	0.23	2.98	0.73
Xizang										
Shaanxi	11.58	5.88	5.70	0.71	0.62	0.09	7.32	0.85	1.41	1.29
Gansu	3.80	2.29	1.51	0.11	0.12	0.02	2.41	0.29	0.76	0.20
Qinghai	0.98	0.55	0.43	0.05	0.02	0.03	0.47	0.08	0.31	0.07
Ningxia	1.13	0.72	0.41	0.07	0.05	0.02	0.45	0.21	0.36	0.04
Xinjiang	3.65	2.47	1.18	0.35	0.20	0.15	1.52	0.15	1.41	0.22

Basic Conditions of Commune- and Brigade-Run Enterprises in Various Provinces, Municipalities, and Autonomous Regions

Region	Commune- and brigade-run enterprises (10,000)	Commune- and brigade-run enterprise personnel (10,000)	Commune- and brigade-run enterprise gross income (100 million yuan)	Gross output value of commune- and brigade-run industry (1980 prices) (100 million yuan)	Net profit of commune- and brigade-run enterprises (100 million yuan)	Taxes paid by commune- and brigade-run enterprises (100 million yuan)	Fixed assets (original value) of commune- and brigade-run enterprises (100 million yuan)
National total	136.17	3,112.91	771.77	646.03	115.51	44.73	429.28
Beijing	0.67	40.19	18.08	15.49	2.97	1.39	8.70
Tianjin	0.45	38.21	13.35	15.54	1.78	1.33	6.27
Hebei	9.06	172.20	39.08	34.01	11.75	2.53	20.17
Shanxi	6.81	90.79	19.88	22.01	5.74	1.38	12.64
Nei Monggol	1.30	23.13	4.75	3.12	0.61	0.21	3.95
Liaoning	3.45	122.43	36.79	30.89	5.00	2.57	19.82
Jilin	1.81	43.32	11.56	7.89	1.46	0.48	7.90
Heilongjiang	2.11	57.80	14.06	12.28	1.65	0.67	11.42
Shanghai	0.58	80.73	40.80	42.06	6.79	4.15	19.46
Jiangsu	7.01	429.41	134.69	131.65	14.41	8.99	52.05
Zhejiang	7.78	250.00	65.56	60.77	7.86	4.30	26.79
Anhui	4.43	94.89	15.56	11.83	1.90	0.59	9.80
Fujian	4.45	125.77	21.76	12.67	2.41	0.73	11.69
Jiangxi	4.34	80.36	16.91	10.59	1.71	0.75	9.91
Shandong	21.85	402.21	81.44	64.61	21.06	3.66	48.14
Henan	6.31	162.19	34.02	29.34	5.54	1.63	24.93
Hubei	10.82	147.33	28.88	21.61	3.60	1.52	24.28
Hunan	10.90	157.41	35.20	21.24	3.67	1.57	25.21
Guangdong	8.85	211.76	62.92	41.42	7.75	2.57	28.90
Guangxi	2.70	51.80	9.91	6.31	0.82	0.49	6.83
Sichuan	10.76	164.32	34.21	30.05	2.39	1.89	25.44
Guizhou	1.35	20.89	2.97	2.87	0.46	0.22	2.31
Yunnan	1.74	39.27	8.25	4.90	0.73	0.24	6.00
Xizang							
Shaanxi	3.82	58.94	11.58	7.83	1.83	0.55	8.76
Gansu	1.38	22.55	3.80	2.51	0.57	0.15	3.25
Qinghai	0.33	4.35	0.98	0.54	0.18	0.03	0.92
Ningxia	0.43	4.28	1.13	0.46	0.15	0.04	1.12
Xinjiang	0.68	16.38	3.65	1.54	0.72	0.10	2.62

Major Financial Indices of Commune- and Brigade-Run Enterprises in Various Provinces, Municipalities, and Autonomous Regions
Unit: 10,000 yuan

Region	1. Gross income	2. Expenditures	Of which: Production enterprises	3. State taxes	Of which: income tax	4. Net profit	5. Grand total of accumulated profits last year
National total	770.20	609.95	501.16	44.73	12.54	115.51	40.63
Beijing	18.08	13.72	11.72	1.39	0.68	2.97	0.33
Tianjin	13.35	10.24	9.96	1.33	0.64	1.78	0.61
Hebei	39.08	24.80	16.97	2.53	0.69	11.75	6.49
Shanxi	19.88	12.77	9.89	1.38	0.42	5.74	1.94
Nei Monggol	4.75	3.92	3.51	0.21	0.03	0.61	0.30
Liaoning	36.79	29.22	22.13	2.57	0.80	5.00	1.26
Jilin	11.56	9.61	7.72	0.48	0.11	1.46	0.37
Heilongjiang	14.06	11.74	9.62	0.67	0.15	1.65	0.36
Shanghai	40.80	29.86	29.86	4.15	1.78	6.79	0.91
Jiangsu	134.70	111.30	95.76	8.99	2.42	14.41	3.63
Zhejiang	65.56	53.40	48.64	4.30	1.27	7.86	5.33
Anhui	15.56	13.07	9.46	0.59	0.10	1.90	0.89
Fujian	21.76	18.61	14.90	0.73	0.14	2.41	0.89
Jiangxi	16.91	14.45	11.17	0.75	0.11	1.71	0.80
Shandong	81.44	56.72	42.95	3.66	1.18	21.06	5.67
Henan	34.02	26.85	19.24	1.63	0.27	5.54	1.69
Hubei	28.88	23.76	19.24	1.52	0.35	3.60	1.48
Hunan	35.20	29.97	24.07	1.57	0.31	3.67	2.13
Guangdong	62.92	52.60	37.46	2.57	0.50	7.75	1.88
Guangxi	9.91	8.59	5.98	0.49	0.05	0.82	0.55
Sichuan	32.63	28.35	28.12	1.89	0.31	2.39	0.33
Guizhou	2.97	2.30	1.92	0.22	0.04	0.46	0.26
Yunnan	8.25	7.28	6.10	0.24	0.03	0.73	0.23
Xizang							
Shaanxi	11.58	9.20	9.06	0.55	0.12	1.83	1.48
Gansu	3.80	3.08	2.11	0.15	0.02	0.57	0.39
Qinghai	0.98	0.77	0.68	0.03	—	0.18	0.13
Ningxia	1.13	0.94	0.77	0.04	0.01	0.15	0.10
Xinjiang	3.65	2.83	2.15	0.10	0.01	0.72	0.20

Note: In the "gross income" column, the income of Sichuan should be 158 million yuan less since 21,000 enterprises were accounted for only in production but not financially.

[Continuation of Major Financial Indices of Commune- and Brigade-Run Enterprises in Various Provinces, Municipalities, and Autonomous Regions]

Region	6. Total amount of profits used in current year	Of which: Used in enterprises' expanded reproduction	Used for purchase of farm machines	Used in farmland capital construction	Used to support poor production teams	Used on distribution among commune members	Used on collective welfare
National total	103.53	47.62	5.33	7.12	1.89	22.45	9.42
Beijing	3.03	1.05	0.09	0.14	0.17	1.04	0.13
Tianjin	1.95	0.68	0.06	0.16	0.02	0.52	0.10
Hebei	11.54	4.73	0.84	0.97	0.16	2.67	0.55
Shanxi	5.41	1.64	0.21	0.11	0.09	2.74	0.32
Nei Monggol	0.61	0.40	0.07	0.01	0.01	0.08	0.04
Liaoning	4.22	2.01	0.19	0.22	0.12	0.85	0.40
Jilin	1.37	0.79	0.08	0.03	0.03	0.12	0.08
Heilongjiang	1.48	1.07	0.07	0.08	0.04	0.11	0.10
Shanghai	6.95	3.84	0.13	0.32	0.28	0.62	0.48
Jiangsu	12.41	6.85	0.38	0.80	0.14	1.83	1.17
Zhejiang	5.80	3.48	0.11	0.28	0.06	0.73	0.61
Anhui	1.74	1.12	0.09	0.15	0.02	0.12	0.24
Fujian	2.32	1.12	0.11	0.14	0.02	0.22	0.45
Jiangxi	1.67	0.66	0.09	0.11	0.02	0.08	0.25
Shandong	17.80	5.77	1.53	1.59	0.30	6.86	1.36
Henan	5.00	2.35	0.29	0.59	0.07	1.02	0.50
Hubei	3.59	2.09	0.21	0.26	0.06	0.37	0.27
Hunan	4.00	1.87	0.18	0.55	0.07	0.45	0.77
Guangdong	6.78	3.07	0.25	0.41	0.09	0.99	1.01
Guangxi	0.65	0.43	0.02	0.02	0.01	0.03	0.09
Sichuan	1.24	0.55	0.11	0.05	0.03	0.27	0.07
Guizhou	0.32	0.23	0.01	—	—	0.01	0.05
Yunnan	0.49	0.29	0.02	0.01	—	0.11	0.04
Xizang							
Shaanxi	1.79	0.84	0.11	0.06	0.04	0.33	0.23
Gansu	0.54	0.27	0.03	0.01	0.01	0.08	0.04
Qinghai	0.12	0.09	0.01	—	—	0.01	0.01
Ningxia	0.10	0.06	—	0.01	—	0.01	0.01
Xinjiang	0.61	0.27	0.05	0.04	0.02	0.18	0.05

State Farm and Land Reclamation

Industrial and Agricultural Output Value of State Farms in Various Provinces,
Municipalities, and Autonomous Regions

Unit: 10,000

Region	GVIAO	1. Industrial output value	2. Agricultural output value
National total	1,162,028.64	498,375.89	663,652.75
Beijing	47,030.81	22,067.00	24,963.81
Tianjin	9,884.26	7,093.60	2,790.66
Hebei	30,438.70	16,285.75	14,152.95
Shanxi	2,640.05	1,158.62	1,481.43
Nei Monggol	30,103.89	5,621.57	24,482.32
Liaoning	57,366.00	17,663.00	39,703.00
Jilin	18,624.56	5,042.57	13,581.99
Heilongjiang	220,908.00	75,211.00	145,697.00
Shanghai	75,072.16	63,744.60	11,327.56
Jiangsu	41,179.89	23,447.84	17,732.05
Zhejiang	17,026.58	10,009.41	7,017.17
Anhui	12,866.64	4,611.00	8,255.64
Fujian	16,113.27	5,700.52	10,412.75
Jiangxi	51,532.19	34,779.77	16,752.42
Shandong	2,177.94	401.72	1,776.22
Henan	8,863.67	3,267.15	5,596.52
Hubei	66,016.40	29,365.22	36,651.18
Hunan	39,405.18	17,306.44	22,098.74
Guangdong	121,415.00	22,164.00	98,951.00
Guangxi	19,419.88	9,955.86	9,464.02
Sichuan	8,818.64	5,147.82	3,670.82
Guizhou	2,011.79	719.26	1,292.53
Yunnan	21,546.00	1,937.00	16,609.00
Xizang	3,518.53	2,158.26	1,390.27
Shaanxi	6,378.70	3,192.37	3,186.33
Gansu	6,208.15	2,830.00	3,378.15
Qinghai	1,896.86	410.09	1,486.77
Ningxia	8,772.60	4,035.00	4,737.60
Xinjiang	200,003.04	99,486.37	100,516.67
Xinjiang (Production crops)	1,691.04		4,691.04
Xinjiang (Agriculture)	9,220.31		9,220.31
Two tropical crop colleges	847.91	263.08	584.83

Draft supplied by State Farm and Land Reclamation Bureau of Ministry of Agriculture, Animal Husbandry and Fishery

Grain and Bean Output in State Farm and Land Reclamation Sector of Various Provinces, Municipalities, and Autonomous Regions

Area: 10,000 mu
 Unit: Per-mu output: jin
 Total output: 10,000 jin

Region	Grain and bean crops			Of which: Soybean		
	Area	Per-mu output	Total output	Area	Per-mu output	Total output
National total	5,014.30	272	1,363,843.17	1,382.11	159	219,543.60
Beijing	80.08	518	41,447.20	1.33	190	251.80
Tianjin	6.70	278	1,866.00	0.31	106	33.00
Hebei	127.22	393	50,027.08	5.55	85	469.55
Shanxi	4.28	182	780.70	0.80	57	45.24
Nei Monggol	355.78	169	60,157.20	50.25	117	5,890.52
Liaoning	148.86	702	104,548.00	9.42	164	1,544.00
Jilin	73.51	307	22,590.52	10.65	98	1,044.16
Heilongjiang	2,565.69	184	472,561.50	1,214.52	166	201,769.90
Shanghai	29.22	529	15,462.75	1.09	302	329.57
Jiangsu	89.26	464	41,462.12	14.69	151	2,214.61
Zhejiang	19.27	559	10,762.44	0.41	195	79.91
Anhui	66.96	338	22,659.00	16.50	76	1,250.00
Fujian	42.96	562	24,128.40	1.46	129	187.65
Jiangxi	89.31	525	46,905.05	1.65	145	239.37
Shandong	19.79	183	3,626.54	5.77	101	580.55
Henan	37.47	334	12,505.87	7.40	46	339.71
Hubei	253.90	408	103,627.00	18.70	68	1,276.00
Hunan	93.88	523	49,100.08	1.66	91	160.63
Guangdong	74.13	349	25,856.25	1.75	97	168.89
Guangxi	10.22	397	4,053.55	0.39	76	30.51
Sichuan	1.05	224	236.03	0.02	101	2.10
Guizhou	1.45	116	603.52	0.05	45	2.26
Yunnan	12.06	150	5,128.12	1.63	97	158.92
Xizang	17.33	204	3,542.23	0.01	115	1.15
Shaanxi	25.52	337	8,586.37	1.02	64	65.24
Gansu	34.71	265	9,191.81	0.33	94	30.93
Qinghai	5.16	206	1,061.99			
Ningxia	27.81	528	14,672.00	1.21	101	122.00
Xinjiang	592.31	308	182,528.23	11.27	96	1,085.54
Xinjiang (Production crops)	44.19	265	11,718.50	1.04	40	41.87
Xinjiang (Agriculture)	63.69	187	11,922.70	1.22	104	128.02
Two tropical crop colleges	0.53	421	224.42			

Draft supplied by State Farm and Land Reclamation Bureau of Ministry of Agriculture, Animal Husbandry and Fishery

Cotton Output in State Farm and Land Reclamation Sector of Various Provinces, Municipalities, and Autonomous Regions

Region	Cotton		
	Area (10,000 mu)	Per-mu output (jin)	Total output (dan)
National total	334.49	79	2,630,972
Beijing	0.45	92	4,120
Tianjin		74	27
Hebei	2.98	44	12,967
Shanxi	0.18	43	760
Nei Monggol			
Liaoning	0.11	62	682
Jilin			
Heilongjiang			
Shanghai	7.10	108	76,535
Jiangsu	34.75	98	339,520
Zhejiang	4.42	144	63,559
Anhui	5.75	87	50,214
Fujian			
Jiangxi	1.38	187	25,767
Shandong	2.26	68	15,427
Henan	2.94	66	19,422
Hubei	59.70	69	413,300
Hunan	22.14	68	151,135
Guangdong			
Guangxi			
Sichuan			
Guizhou			
Yunnan			
Xizang			
Shaanxi			
Gansu	1.92	76	14,637
Qinghai	0.06	37	202
Ningxia			
Xinjiang			
Xinjiang (Production crops)	186.17	77	1,432,269
Xinjiang (Agriculture)	1.91	44	8,390
Two tropical crop colleges	0.27	75	2,039

Draft supplied by State Farm and Land Reclamation Bureau of Ministry of Agriculture, Animal Husbandry and Fishery

Plant-Oil Output in State Farm and Land Reclamation Sector of Various Provinces, Municipalities, and Autonomous Regions

Region	Plant oil		
	Area (10,000 mu)	Per-mu output (jin)	Total output (dan)
National total	337.22	92	3,087,895
Beijing	3.27	58	18,970
Tianjin	2.00	108	21,649
Hebei	18.00	95	170,991
Shanxi	1.51	61	9,209
Nei Monggol	44.17	81	358,284
Liaoning	4.54	90	40,709
Jilin	4.55	89	40,475
Heilongjiang	11.63	50	58,498
Shanghai	2.04	208	42,421
Jiangsu	2.14	206	44,114
Zhejiang	2.59	160	41,382
Anhui	9.02	92	83,078
Fujian	3.53	210	74,230
Jiangxi	11.95	90	107,072
Shandong	1.46	82	11,992
Henan	2.27	57	12,861
Hubei	39.90	70	280,840
Hunan	16.40	121	198,269
Guangdong	11.21	123	138,142
Guangxi	2.31	120	27,811
Sichuan	1.39	44	6,149
Guizhou	0.68	100	6,787
Yunnan	1.84	125	23,001
Xizang	1.93	34	6,610
Shaanxi	0.88	126	11,020
Gansu	5.39	84	45,041
Qinghai	8.96	128	115,008
Ningxia	5.92	167	98,630
Xinjiang	93.93	86	805,462
Xinjiang (Production crops)	9.76	86	83,636
Xinjiang (Agriculture)	12.00	87	105,027
Two tropical crop colleges	0.05	105	527

Draft supplied by State Farm and Land Reclamation Bureau of Ministry of Agriculture, Animal Husbandry and Fishery

Output of Sugar, Rubber, Fruits, and Ginseng in State Farm and Land Reclamation
Sector of Various Provinces, Municipalities, and Autonomous Regions

Region	Sugar			Total rubber output (ton)	Total fruit output (dan)	Total ginseng output (jin)	Sisal (fiber) (ton)
	Area (10,000 mu)	Per-mu output (jin)	Total output (dan)				
National total	121.94	3.789	46,201.353	138,701.83	5,885,758	1,422,216	16,028.60
Beijing					403,940		
Tianjin					51,400		
Hebei	0.52	670	34,850		53,166		
Shanxi	0.02	610	1,220		85,306		
Nei Monggol	4.09	1,459	596,657		51,490		
Liaoning	0.88	1,081	95,131		1,247,600	122,113	
Jilin	2.68	1,201	322,192		247,033	1,280,183	
Heilongjiang	36.49	1,292	4,714,710		36,231	19,920	
Shanghai					142,432		
Jiangsu	0.45	1,314	59,113		108,054		
Zhejiang	0.52	8,110	421,715		97,000		
Anhui					208,120		
Fujian	2.46	7,607	1,870,281	605.22	199,145		620.05
Jiangxi	0.19	3,820	72,577		67,155		
Shandong	0.10	2,304	23,044		7,595		
Henan	0.03	306	828		480,395		
Hubei	2.67	6,013	1,610,440		283,606		
Hunan	16.13	6,916	11,160,560		191,856		
Guangdong	16.93	6,446	10,883,393	111,526.00	206,218		12,526.55
Guangxi	8.19	5,276	1,321,179	3,081.40	643,870		2,882.00
Sichuan	0.03	6,335	18,434		197,936		
Guizhou	0.12	5,500	66,000		2,293		
Yunnan	4.82	6,406	3,087,832	22,877.37	26,888		
Xizang					26,016		
Shaanxi					40,234		
Gansu	0.37	1,475	54,597		26,304		
Qinghai					17		
Ningxia	1.29	3,230	416,050		78,870		
Xinjiang (Production corps)	22.40	2,790	6,249,843		602,261		
Xinjiang (Agriculture)	0.07	1,061	7,425		60,456		
Xinjiang (Animal husbandry)	0.40	1,431	57,262		12,648		
Two tropical crop schools	0.09	6,359	56,020	611.84	223		

Draft supplied by State Farm and Land Reclamation Bureau of Ministry of Agriculture, Animal Husbandry and Fishery

Output of Animal and Aquatic Products in State Farm and Land Reclamation Sector
of Various Provinces, Municipalities, and Autonomous Regions

Region	Number of pigs in year-end inventory (10,000 head)	Number of large animals in year-end inventory (10,000 head)	Number of sheep in year-end inventory (10,000 head)	Total meat output (10,000 jin)	Total milk output (10,000 jin)	Total egg output (10,000 jin)	Total aquatic product output (ton)
National total	389.56	209.50	768.16	52,210.86	78,745.05	7,551.50	41,457.58
Beijing	15.87	3.96	3.82	2,826.41	16,503.00	1,249.08	828.00
Tianjin	0.53	0.99	0.58	93.65	5,420.76	317.62	21.36
Hebei	8.04	3.05	9.27	1,152.59	2,730.90	143.81	918.00
Shanxi	0.10	0.82	0.15	43.28	2,878.44	2.42	
Nei Monggol	12.92	30.40	104.20	2,201.34	5,617.71	205.30	1,292.70
Liaoning	31.20	6.95	3.54	3,741.00	6,645.00	823.60	15,095.00
Jilin	7.09	3.73	3.95	733.59	595.12	98.44	84.00
Heilongjiang	46.68	8.68	17.07	6,506.20	4,616.40	1,132.98	3,069.00
Shanghai	5.62	1.84		1,287.24	12,003.22	359.82	1,861.70
Jiangsu	8.59	0.87	1.61	1,434.58	35.93	192.20	879.83
Zhejiang	4.02	0.66	0.03	733.94	2,909.19	61.62	304.20
Anhui	3.48	0.57	0.34	391.00	384.71	62.32	341.15
Fujian	12.42	2.14	0.43	1,142.72	212.39	137.75	619.24
Jiangxi	17.87	2.87	0.48	1,874.07	597.49	209.39	1,072.00
Shandong	0.49	0.16	0.68	74.45	52.00	28.29	28.20
Henan	1.87	0.51	0.31	213.08	313.31	43.00	21.40
Hubei	43.59	7.20	2.82	4,323.76	1,693.05	1,164.70	6,236.03
Hunan	28.14	2.67	0.10	3,477.98	794.33	369.48	4,009.65
Guangdong	66.29	17.45	0.72	5,803.13	595.88	106.60	643.00
Guangxi	13.53	1.68	0.21	1,523.07	123.53	24.83	242.90
Sichuan	1.15	18.02	14.45	487.38	5,492.09	1.42	131.20
Guizhou	1.13	0.40	0.19	116.38	937.32	0.91	18.40
Yunnan	12.76	2.01	0.05	748.15	5.88	19.61	501.00
Xizang	0.99	6.30	9.28	90.15	131.71	4.62	27.70
Shaanxi	0.40	0.52	0.43	40.67	1,911.88	63.39	72.06
Gansu	1.74	2.86	9.66	229.02	108.94	22.74	1.60
Qinghai	0.29	4.76	25.09	197.98	732.91	0.12	
Ningxia	2.44	0.49	6.26	383.11	545.90	10.65	74.00
Xinjiang (Production corps)	37.60	23.92	204.53	6,176.33	2,390.38	668.97	2,871.76
Xinjiang (Agriculture)	1.42	5.52	26.48	246.83	244.92	17.82	108.00
Xinjiang (Animal husbandry)	0.86	47.32	321.42	3,880.32	1,518.20	8.00	84.50
Two tropical crop schools	0.44	0.18	0.01	37.46	2.56		

Draft supplied by State Farm and Land Reclamation Bureau of Ministry of Agriculture, Animal Husbandry and Fishery

Number of Farm Machines in Use and Level of Agricultural Mechanization in
State Farm and Land Reclamation Sector of Various Provinces, Municipalities,
and Autonomous Regions

Region	Large and medium farm tractors		Power-driven drainage and irrigation machines		Combined harvesters		Farm trucks	
	Sets	10,000 hp	Sets	10,000 hp	Sets	10,000 hp	Sets	10,000 hp
National total	52,347	284.00	71,797	153.90	17,922	115.59	17,783	168.15
Beijing	1,118	6.36	8,544	10.63	319	1.24	907	7.49
Tianjin	265	0.13	898	3.14	22	0.14	148	1.40
Hebei	1,110	6.00	7,189	16.83	186	1.12	271	2.59
Shanxi	161	0.87	502	0.74	16	0.18	73	0.65
Nei Monggol	3,508	20.47	5,175	4.98	1,576	9.72	1,036	9.79
Liaoning	1,823	9.82	4,734	10.01	19	0.19	323	3.11
Jilin	958	5.09	2,401	2.19	66	0.40	337	3.43
Heilongjiang	18,919	114.26	4,612	12.54	11,545	76.09	4,342	44.00
Shanghai	848	4.07	1,523	1.89	252	0.20	745	5.94
Jiangsu	960	5.07	1,836	6.42	293	2.22	219	1.88
Zhejiang	355	1.39	1,295	1.78	34	0.13	146	1.38
Anhui	738	4.13	1,184	6.06	275	1.41	272	2.79
Fujian	396	1.57	2,110	1.88	13	0.02	226	1.99
Jiangxi	1,118	3.79	2,842	9.09	59	0.11	711	6.31
Shandong	296	1.61	726	0.75	110	0.61	104	0.86
Henan	727	4.02	2,558	3.23	268	1.62	263	2.56
Hubei	2,807	11.55	6,382	24.93	360	1.56	450	4.18
Hunan	1,176	5.54	5,321	10.24			330	3.06
Guangdong	2,350	10.77	1,781	2.56	39	0.14	2,333	21.94
Guangxi	987	4.49	1,017	2.16			368	3.47
Sichuan	99	0.46	395	0.73	9	0.06	180	1.48
Guizhou	155	0.61	179	0.33	1	0.01	108	0.97
Yunnan	987	4.97	482	0.79	35	0.06	866	7.95
Xizang	149	0.97	216	0.76	44	0.27	101	0.99
Shaanxi	271	1.58	630	1.20	118	0.63	116	1.07
Gansu	417	2.53	708	1.65	131	0.74	139	1.26
Qinghai	163	1.01	9	0.02	67	0.36	126	1.27
Ningxia	415	2.37	446	2.18	117	0.67	134	1.22
Xinjiang (Production corps)	7,538	40.60	5,284	12.62	1,644	13.84	1,965	18.85
Xinjiang (Agriculture)	552	2.80	268	0.46	106	0.68	97	0.82
Xinjiang (Animal husbandry)	949	4.94	518	1.07	195	1.16	331	3.33
Two tropical crop schools	32	0.16	32	0.04	3	0.01	13	0.12

[continued]

[Continuation of Number of Farm Machines in Use and Level of Agricultural Mechanization in State Farm and Land Reclamation Sector of Various Provinces, Municipalities, and Autonomous Regions]

Machine plowing area (10,000 mu)	Machine sowing area (10,000 mu)	Machine harvesting area (10,000 mu)	Electric power consumption in farms (10,000 kwh)	Chemical fertilizer application (10,000 tons)	Chemical fertilizer application per-mu of agricultural crops (in)	Area of effective irrigation (10,000 mu)	Area of chemical weeding (10,000 mu)
5.597.75	4,710.69	3,686.98	227,550.84	159.85	42	2,407.91	2,378.18
62.64	54.15	21.53	9,940.80	6.07	96	63.65	16.91
10.92	10.47	3.53	1,971.43	0.22	34	10.82	2.62
127.24	91.16	30.95	10,719.23	5.03	64	59.45	34.53
10.02	8.31	2.40	516.50	0.13	23	3.78	1.28
398.18	352.87	300.55	6,173.60	1.93	9	69.90	157.39
130.97	17.36	0.92	17,547.00	11.97	112	95.08	16.53
53.41	27.81	8.20	4,953.00	1.61	29	23.21	14.14
2,887.41	2,630.71	2,350.13	65,237.00	38.15	27	117.37	1,711.42
25.85	8.72	21.30	11,414.00	2.95	113	25.38	24.00
107.00	117.00	65.00	5,655.00	9.39	103	89.48	61.00
11.36	1.10	3.92	2,199.00	2.30	54	12.59	6.46
47.83	52.78	36.07	1,800.00	3.14	60	29.61	23.17
10.20	0.08	0.02	1,654.18	4.22	106	17.51	2.74
35.60	2.51	3.61	6,738.74	3.26	38	38.34	4.67
21.67	23.57	11.03	596.90	0.73	56	5.79	1.77
31.67	38.87	27.45	1,753.00	2.54	96	18.72	6.55
148.90	75.80	47.80	13,137.00	10.73	49	177.52	39.40
46.25	4.89	6.01	11,408.75	7.22	68	88.27	15.67
27.54	0.48	1.64	4,428.00	10.73	51	26.36	22.00
20.48	0.93	4.34	3,517.11	2.73	97	10.67	6.89
4.05	2.03	1.67	1,180.88	0.18	11	0.33	0.30
1.17			443.43	0.30	60	0.47	0.27
9.99	0.07	4.37	3,324.77	1.76	74	10.32	8.10
22.58	15.83	6.54	210.50	0.14	14	11.64	
32.25	31.30	23.76	776.16	0.83	47	12.42	2.09
44.88	31.87	38.90	3,331.35	1.82	75	52.70	13.72
14.03	13.82	11.46	173.26	0.24	31	7.66	2.41
39.06	35.98	22.44	3,333.70	1.92	91	43.68	10.03
1,076.25	933.41	558.98	25,035.53	26.90	45	1,143.89	165.66
62.74	58.83	24.33	6,965.83	0.41	12	65.78	0.60
75.50	67.93	48.08	1,296.98	0.24	5	75.31	5.81
0.11	0.05	0.05	118.21	0.06	39	0.21	0.05

Draft supplied by State Farm and Land Reclamation Bureau of Ministry of Agriculture, Animal Husbandry and Fishery

Farm Machines

Yearend Number of Major Farm Machines in Use Throughout the Country

	Unit	1982	1981	Increase or decrease in 1982 compared with 1981	
				Absolute figure	Percent
Total farm machine power capacity	10,000 hp	22,589.0	21,358.5	1,230.5	5.8
Large and medium far tractors: Number (mixed)	10,000 sets	81.2	79.2	2.0	2.5
Horsepower	10,000 hp	3,552.9	3,432.2	120.7	3.5
Small and walking tractors: Number	10,000 sets	228.7	203.7	25.0	12.3
Horsepower	10,000	2,704.1	2,394.3	309.8	12.9
Large and medium farm tractor and machine-drawn farm equipment	10,000 sets	137.4	139.0	-1.6	-1.2
Of which: Machine-drawn plows	"	51.7	52.3	-0.6	-1.1
Machine-drawn harrows	"	36.1	36.6	-0.5	-1.4
Machine-drawn transplanters	"	17.8	18.4	-0.6	-3.3
Small walking tractor and machine-drawn farm equipment	"	230.5	221.5	9.0	4.1
Motorized cultivation boats: Number	Each	98,703	113,427	-14,724	-13.0
Horsepower	10,000	74.3	83.4	-9.1	-10.9
Motorized rice transplanters: Number	Each	45,002	64,195	-19,193	-29.9
Horsepower	10,000	15.7	21.8	-6.1	-28.0
Motorized drainage and irrigation farm machines: Number	10,000 sets	580.3	567.2	13.1	2.3
Horsepower	10,000	7,669.7	7,498.3	171.4	2.3
Of which: Diesel engines: Number	10,000 sets	284.2	285.5	-1.3	-0.5
Horsepower	10,000	3,609.9	3,637.2	-27.3	-0.8
Motors	10,000 sets	283.4	269.1	14.3	5.3
Horsepower	10,000	3,989.4	3,800.6	188.8	5.0
Farm pumps	10,000	480.5	475.6	4.9	1.0
Sprinklers	Units	320,642	295,717	24,925	8.4
Combined harvesters: Number	Set	33,904	31,268	2,636	8.4
Horsepower	10,000	191.8	183.6	8.2	4.5

Yearend Number of Major Farm Machines in Use in Various Provinces, Municipalities, and Autonomous Regions

Region	Total power capacity of farm machines (10,000 horsepower)	Large and medium farm tractors		Small tractors (including walking tractors)	
		Mixed sets	10,000 horsepower	10,000 sets	10,000 horsepower
National total	22,589.0	812,447	3,552.9	228.7	2,704.1
Beijing	329.1	9,032	51.6	2.3	23.0
Tianjin	346.0	12,795	53.7	0.7	7.2
Hebei	1,843.0	46,234	225.3	13.3	156.5
Shanxi	819.9	35,641	148.4	4.3	51.3
Nei Monggol	546.9	32,673	168.0	2.4	28.3
Liaoning	837.4	45,511	211.0	4.4	53.3
Jilin	538.6	33,092	159.9	3.1	36.8
Heilongjiang	1,107.7	82,895	452.5	4.9	58.8
Shanghai	306.8	8,611	37.4	3.3	36.2
Jiangsu	1,786.4	18,064	84.5	32.8	393.7
Zhejiang	854.6	10,108	29.1	12.4	148.1
Anhui	983.2	18,112	89.1	14.8	176.1
Fujian	410.2	8,092	31.9	8.0	97.4
Jiangxi	490.3	21,829	65.0	6.5	77.6
Shandong	2,275.8	130,763	442.6	13.4	160.2
Henan	1,845.3	63,160	309.5	18.9	224.8
Hubei	1,106.4	37,153	111.7	11.7	140.4
Hunan	958.5	19,988	71.2	7.8	80.3
Guangdong	1,098.2	20,979	88.5	15.9	181.2
Guangxi	562.8	21,375	85.3	10.7	128.9
Sichuan	1,022.8	23,419	86.8	11.0	135.0
Guizhou	198.8	8,432	27.5	1.0	10.7
Yunnan	455.7	16,543	83.3	3.8	45.1
Xizang	37.9	2,191	13.5	0.6	6.8
Shaanxi	715.8	22,209	112.9	9.1	109.3
Gansu	514.0	18,546	91.6	6.3	74.3
Qinghai	93.3	6,265	30.5	1.6	19.1
Ningxia	125.3	5,751	28.9	2.1	25.0
Xinjiang	378.3	32,984	161.7	1.6	18.7

[Continuation of Yearend Number of Major Farm Machines in Use in Various Provinces, Municipalities, and Autonomous Regions]

Region	Large and medium tractor and machine-drawn farm equipment (10,000)	Of which:			Small tractor and machine-drawn farm equipment (10,000)
		Machine-drawn plows	Machine-drawn harrows	Machine-drawn seeders	
National total	137.4	51.7	36.1	17.8	230.5
Beijing	1.7	0.8	0.4	0.2	2.8
Tianjin	1.6	0.6	0.3	0.2	0.9
Hebei	7.9	3.4	0.9	1.2	10.6
Shanxi	4.6	2.6	0.8	0.5	2.4
Nei Monggol	4.3	1.3	1.3	1.0	0.4
Liaoning	10.4	2.7	2.2	2.0	4.4
Jilin	6.4	1.6	1.9	1.2	1.9
Heilongjiang	28.6	4.1	8.7	4.4	2.5
Shanghai	1.2	0.4	...	—	1.1
Jiangsu	3.4	1.4	0.7	0.3	65.0
Zhejiang	1.7	0.6	0.5	—	13.4
Anhui	2.1	1.3	0.6	0.1	14.2
Fujian	0.9	0.4	0.4	—	4.5
Jiangxi	3.7	1.2	2.4	...	7.8
Shandong	19.0	10.5	2.8	2.5	15.0
Henan	7.7	4.0	2.4	1.2	8.2
Hubei	4.3	2.2	1.5	0.3	6.4
Hunan	2.5	1.0	1.3	...	7.0
Guangdong	2.9	1.4	1.4	...	14.8
Guangxi	3.0	1.3	1.6	...	12.3
Sichuan	3.6	1.8	0.4	0.1	14.8
Guizhou	0.6	0.4	0.2	...	0.2
Yunnan	1.9	0.8	0.4	...	2.9
Xizang	0.3	0.1	0.1	0.1	0.2
Shaanxi	3.3	1.8	0.5	0.5	9.2
Gansu	2.7	1.6	0.5	0.3	5.1
Qinghai	0.9	0.4	0.3	0.2	0.9
Ningxia	0.9	0.4	0.3	0.1	1.1
Xinjiang	5.3	1.6	1.3	1.4	0.5

[Continuation of Yearend Number of Major Farm Machines in Use in Various Provinces, Municipalities, and Autonomous Regions]

Region	Motorized cultivation boats (including machine-rolling boats)		Motorized rice transplanters		Power-driven drainage and irrigation farm machines	
	Each	10,000 hp	Each	10,000 hp	10,000 sets	10,000 hp
National total	98,703	74.2	45,002	15.7	580.3	7,669.7
Beijing	—	—	2,025	0.7	5.8	86.3
Tianjin	291	0.3	1,026	0.3	8.4	141.4
Hebei	59	0.1	891	0.3	96.9	1,097.4
Shanxi	—	—	95	0.1	14.1	232.1
Nei Monggol	—	—	—	—	7.4	107.2
Liaoning	983	0.8	3,776	1.3	12.1	211.5
Jilin	—	—	6,733	2.4	6.6	109.1
Heilongjiang	—	—	1,571	0.6	6.4	107.8
Shanghai	56	0.1	7,355	2.3	4.5	37.3
Jiangsu	13	...	6,867	2.7	35.1	607.9
Zhejiang	4,934	5.9	2,754	0.7	19.0	167.7
Anhui	643	0.8	783	0.3	33.0	427.9
Fujian	3,887	4.7	59	...	6.6	74.5
Jiangxi	2,801	3.0	396	0.4	13.4	225.3
Shandong	51	0.1	1,132	0.4	81.5	1,068.3
Henan	14	...	803	0.3	85.1	826.0
Hubei	29,303	26.4	6,138	1.8	13.5	319.0
Hunan	47,968	26.0	558	0.2	35.4	398.7
Guangdong	1,206	1.2	348	0.1	19.2	231.0
Guangxi	2,648	2.9	317	0.2	4.9	90.2
Sichuan	3,731	1.9	260	0.1	27.8	387.8
Guizhou	13	...	55	...	8.0	85.8
Yunnan	38	...	710	0.3	4.2	93.9
Xizang	—	—	—	—	0.5	6.4
Shaanxi	38	...	185	0.1	20.3	258.7
Gansu	—	—	—	—	6.3	184.3
Qinghai	—	—	—	—	0.5	12.7
Ningxia	—	—	9	...	0.9	18.3
Xinjiang	26	...	156	0.1	2.9	55.2

[Continuation of Yearend Number of Major Farm Machines in Use in Various Provinces, Municipalities, and Autonomous Regions]

Region	of which:				Farm pumps	Sprinklers		
	Diesel engine		Motors					
	10,000 sets	10,000 hp	10,000 sets	10,000 hp				
National total	284.2	3,609.9	283.4	3,989.4	480.5	320.642		
Beijing	0.1	1.0	5.7	85.3	4.8	466		
Tianjin	2.0	25.2	6.4	116.2	5.4	1,743		
Hebei	45.9	582.9	49.7	509.3	66.2	10,351		
Shanxi	3.1	53.3	11.0	178.7	14.5	4,568		
Nei Monggol	2.0	31.0	4.3	65.5	8.5	2,768		
Liaoning	4.0	62.5	7.6	146.7	7.7	6,006		
Jilin	1.8	23.5	4.8	85.6	5.2	4,730		
Heilongjiang	3.2	56.1	3.1	51.4	6.2	5,060		
Shanghai		0.5	4.5	36.8	4.5	2,785		
Jiangsu	16.2	249.5	18.9	358.0	38.3	27,437		
Zhejiang	7.3	54.8	11.6	112.7	20.8	24,688		
Anhui	14.9	221.1	18.1	206.5	32.1	5,722		
Fujian	4.4	49.4	1.9	21.9	3.5	5,557		
Jiangxi	7.3	122.8	5.8	101.9	8.6	6,535		
Shandong	54.0	730.4	25.9	331.4	62.4	66,793		
Henan	39.1	443.1	45.9	381.9	57.7	46,034		
Hubei	8.3	126.8	5.2	192.2	24.2	12,756		
Hunan	27.9	233.9	6.3	160.4	32.5	11,786		
Guangdong	4.2	67.9	13.6	154.4	13.5	9,540		
Guangxi	2.8	43.2	2.1	46.9	5.8	9,103		
Sichuan	22.8	232.7	3.7	151.4	27.5	42,417		
Guizhou	3.0	37.5	2.5	35.0	2.1	798		
Yunnan	1.1	15.8	2.4	74.5	2.2	4,786		
Xizang	0.3	5.1	0.2	1.3	0.1	524		
Shaanxi	4.0	58.0	16.3	200.7	17.0	6,086		
Gansu	2.4	40.2	3.7	138.4	5.8	918		
Qinghai	0.1	2.9	0.4	9.8	0.2	395		
Ningxia	0.2	3.6	0.7	14.7	0.9	157		
Xinjiang	1.8	35.2	1.1	19.9	2.3	133		

[Continuation of Year end Number of Major Farm Machines in Use in Various Provinces, Municipalities, and Autonomous Regions]

Region	Combined harvesters		Motor-driven harvesters (including harvesting and sunning machines) (sets)	Motor-driven threshers (sets)	Seed-selection machines (sets)	Rice-baking machines (sets)
	Sets	10,000 hp				
National total	33,904	191.8	74,319	2,585,088	14,689	9,840
Beijing	736	2.8	3,007	27,074	152	1,617
Tianjin	107	0.6	1,223	17,134	31	6
Hebei	459	2.4	612	213,000	194	63
Shanxi	92	0.8	3,595	44,289	407	234
Nei Monggol	2,297	13.7	1,301	17,268	—	—
Liaoning	26	0.2	93	55,662	2,366	30
Jilin	114	0.7	82	60,407	2,426	68
Heilongjiang	19,483	123.7	7,343	16,985	4,128	225
Shanghai	794	0.4	1,607	91,847	465	39
Jiangsu	508	3.1	2,669	494,924	1,042	68
Zhejiang	335	0.5	2,546	360,428	462	861
Anhui	494	1.8	1,261	88,663	83	84
Fujian	70	0.1	520	26,706	28	204
Jiangxi	142	0.4	517	29,372	13	94
Shandong	337	1.1	24,429	230,171	98	64
Henan	1,068	5.5	9,108	114,999	120	58
Hubei	634	3.1	4,569	181,863	227	384
Hunan	254	1.0	44	26,961	60	390
Guangdong	193	0.4	1,095	126,022	450	2,274
Guangxi	614	0.1	200	65,597	19	169
Sichuan	51	0.2	167	111,153	12	1,850
Guizhou	—	—	160	2,224	12	461
Yunnan	170	0.3	433	48,427	80	359
Xizang	78	0.5	610	7,081	—	—
Shaanxi	169	0.9	1,752	80,128	18	35
Gansu	326	1.8	3,291	17,042	248	51
Qinghai	466	2.7	351	8,020	303	90
Ningxia	261	0.9	968	13,576	129	20
Xinjiang	3,626	22.3	756	8,065	1,116	42

[Continuation of Yearend Number of Major Farm Machines in Use in Various Provinces, Municipalities, and Autonomous Regions]

Region	Flour mills and rice mills (10,000 units)	Cotton ginning machines (10,000 units)	Oil presses (10,000 units)	Farm trucks (unit)		Large and medium tractors (not including walking tractors and tractor trailers) (10,000)
	Units	Horse-power				
National total	315.5	25.9	33.7	206,383	18,885,717	61.4
Beijing	3.1	—	0.1	5,441	476,292	0.7
Tianjin	1.5	0.1	0.1	6,017	610,363	1.1
Hebei	19.9	2.7	2.2	9,182	814,000	4.0
Shanxi	11.1	0.8	10.0	12,271	1,236,693	3.0
Nei Monggol	8.4	—	0.5	5,198	500,863	1.8
Liaoning	10.2	0.1	0.5	11,096	1,095,900	3.4
Jilin	9.1	—	0.3	5,407	530,895	3.2
Heilongjiang	8.7	—	0.4	12,616	1,261,311	4.7
Shanghai	0.7	0.1	—	5,699	414,584	0.3
Jiangsu	16.7	1.2	0.8	4,246	347,237	1.1
Zhejiang	11.2	0.5	0.2	3,488	302,929	0.9
Anhui	14.7	2.5	1.6	6,574	676,834	1.4
Fujian	5.8	—	0.4	4,458	378,202	0.4
Jiangxi	8.6	0.5	0.5	7,320	600,218	1.8
Shandong	15.0	3.6	4.0	14,345	1,329,952	11.5
Henan	29.4	4.2	4.2	14,932	1,282,117	3.5
Hubei	23.2	3.2	2.1	5,524	467,600	3.5
Hunan	17.8	2.7	1.2	12,750	1,157,981	1.9
Guangdong	9.2	—	0.5	20,575	1,829,087	1.5
Guangxi	11.9	...	0.3	3,701	327,690	1.9
Sichuan	36.8	1.7	1.0	7,978	685,478	2.2
Guizhou	6.2	0.1	0.3	2,811	256,424	0.5
Yunnan	10.9	...	0.2	4,337	388,816	0.7
Xizang	...	—	...	493	46,835	0.2
Shaanxi	14.2	1.6	0.8	6,026	548,408	1.5
Gansu	7.1	0.1	0.8	4,441	419,000	1.4
Qinghai	0.7	—	0.2	1,972	194,644	0.5
Ningxia	1.9	—	0.1	1,304	122,357	0.4
Xinjiang	1.5	0.2	0.4	6,181	583,007	2.4

[Continuation of Yearend Number of Major Farm Machines in Use in Various Provinces, Municipalities, and Autonomous Regions]

Region	Motorized transportation boats			Motorized sprayers (and powder blowers)		Fodder shredders
	Each	10,000 tons	10,000 hp	10,000 sets	10,000 hp	
National total	145,380	154.9	192.6	33.8	83.4	129.7
Beijing	—	—	—	1.1	2.0	1.3
Tianjin	29	...	0.3	0.2	0.5	0.8
Hebei	24	...	0.1	2.3	5.0	8.9
Shanxi	—	—	—	0.4	0.8	2.7
Nei Monggol	...	...	...	0.3	1.0	2.6
Liaoning	183	0.6	1.3	0.9	2.5	4.4
Jilin	9	—	...	0.1	0.2	3.7
Heilongjiang	98	0.8	1.2	0.4	1.2	4.9
Shanghai	4,143	6.8	10.7	2.7	7.6	0.7
Jiangsu	69,634	63.8	75.7	5.7	15.2	9.8
Zhejiang	32,769	21.8	33.3	4.8	11.2	3.4
Anhui	5,567	8.7	7.9	0.3	0.9	2.3
Fujian	5,249	6.9	10.6	0.9	2.7	1.8
Jiangxi	2,460	5.6	4.3	0.3	1.0	0.6
Shandong	1,758	3.6	3.4	2.5	5.9	20.0
Henan	81	0.1	0.1	1.1	2.7	7.9
Hubei	2,842	4.4	5.3	0.9	2.1	7.4
Hunan	5,814	7.4	8.7	2.1	5.9	2.9
Guangdong	12,000	18.9	23.6	0.7	2.2	5.8
Guangxi	2,004	4.2	4.0	0.7	1.7	7.0
Sichuan	266	0.6	1.1	3.0	5.8	13.8
Guizhou	71	0.2	0.4	0.2	0.4	0.5
Yunnan	355	0.5	0.6	0.2	0.5	3.3
Xizang	—	—	—	0.1	0.2	...
Shaanxi	24	...	...	0.5	0.9	6.4
Gansu	—	—	—	0.6	1.0	4.9
Qinghai	—	—	—	0.1	0.3	0.6
Ningxia	—	—	—	0.2	0.4	0.6
Xinjiang	—	—	—	0.5	1.6	0.7

[Continuation of Yearend Number of Major Farm Machines in Use in Various Provinces, Municipalities, and Autonomous Regions]

Region	Fodder harvester (unit)	Motor-driven shearing machines (unit)	Motorized milking machines (unit)	Rubber-tired carts (10,000)	Rubber-tired wheel barrows (10,000)
National total	14,132	1,840	935	234.4	4,841.5
Beijing	—	—	45	4.6	54.6
Tianjin	8	—	53	4.1	13.6
Hebei	27	14	12	49.9	575.1
Shanxi	54	5	20	8.0	150.4
Nei Monggol	9,288	319	131	17.3	128.8
Liaoning	81	3	20	28.4	73.1
Jilin	566	12	13	20.3	38.9
Heilongjiang	771	32	31	26.0	65.2
Shanghai	—	—	122	—	7.5
Jiangsu	—	29	14	2.0	289.9
Zhejiang	—	—	—	—	145.3
Anhui	—	—	5	0.7	315.7
Fujian	—	—	—	0.9	72.4
Jiangxi	6	—	1	2.5	71.1
Shandong	—	—	24	20.8	978.7
Henan	72	5	1	15.7	914.6
Hubei	—	2	12	1.5	128.9
Hunan	—	—	—	0.2	14.0
Guangdong	—	—	66	1.3	76.7
Guangxi	—	—	17	0.8	23.3
Sichuan	191	34	91	0.5	11.5
Guizhou	16	4	7	2.6	7.5
Yunnan	11	—	16	3.7	87.3
Xizang	1	285	67	1.0	3.7
Shaanxi	80	10	103	4.2	252.8
Gansu	89	214	8	4.1	187.8
Qinghai	154	344	4	3.1	27.5
Ningxia	34	8	1	1.0	37.8
Xinjiang	2,683	520	51	9.2	87.8

[Continuation of Yearend Number of Major Farm Machines in Use in Various Provinces, Municipalities, and Autonomous Regions]

Region	Bulldozers		Bulldozers with shovels (units)	Ditching machine (harrows)	Mud-scooping boats (units)
	Set	Horse-power			
National total	19,431	1,121,495	60,018	14,876	1,474
Beijing	2,009	45,897	—	77	—
Tianjin	137	8,730	1,936	79	2
Hebei	214	14,094	4,696	442	3
Shanxi	543	37,376	3,722	443	—
Nei Monggol	906	60,623	2,771	1,100	—
Liaoning	66	5,400	9,936	385	—
Jilin	821	49,685	2,869	222	—
Heilongjiang	1,738	111,133	6,846	514	—
Shanghai	90	6,427	1,552	967	196
Jiangsu	172	12,388	280	1,151	261
Zhejiang	580	15,192	310	1,756	359
Anhui	166	11,107	212	55	149
Fujian	552	48,453	26	9	3
Jiangxi	850	19,400	39	5	—
Shandong	—	—	3,933	605	16
Henan	992	56,972	1,308	630	2
Hubei	1,296	92,000	2,428	4,106	9
Hunan	808	56,722	1,118	29	23
Guangdong	781	47,093	954	282	441
Guangxi	365	23,689	1,384	83	—
Sichuan	768	54,883	390	28	1
Guizhou	292	20,654	4	3	—
Yunnan	1,024	66,019	2,258	72	6
Xizang	300	21,793	65	19	—
Shaanxi	617	41,148	3,741	224	—
Gansu	389	25,164	2,792	76	—
Qinghai	898	42,358	—	77	—
Ningxia	266	17,380	813	31	—
Xinjiang	1,791	109,715	3,635	1,406	3

Draft supplied by Planning Department of Ministry of Agriculture, Animal Husbandry and Fishery

Number of Tractors and Farm Trucks Owned Individually or Jointly by Peasants in Various Provinces, Municipalities, and Autonomous Regions

Region	Tractors (mixed sets)					Farm trucks (each)	
	Total	Classified by horsepower		Classified by forms of operation			
		Large and medium	Small	Individually owned	Jointly owned		
National total	990,533	59,122	931,411	606,843	383,690	17,272	
Beijing	346	3	343	328	18	1	
Tianjin	2,090	647	1,443	1,277	813	95	
Hebei	70,030	2,090	67,940	36,431	33,599	1,119	
Shanxi	29,033	4,727	24,306	21,963	7,077	722	
Nei Monggol	22,187	3,669	18,518	18,603	3,584	538	
Liaoning	12,107	2,410	9,697	10,073	2,034	89	
Jilin	14,602	2,021	12,581	13,480	1,122	289	
Heilongjiang	4,125	615	3,510	4,014	111	135	
Shanghai	64	—	64	64	—	—	
Jiangsu	57,637	355	57,282	27,668	29,969	143	
Zhejiang	21,558	385	21,173	15,486	6,072	123	
Anhui	115,679	3,088	112,591	47,414	68,265	1,284	
Fujian	49,775	1,936	47,839	39,039	10,736	1,266	
Jiangxi	18,580	1,369	17,211	11,753	6,827	427	
Shandong	34,884	8,042	26,842	13,713	21,171	477	
Henan	137,579	6,102	131,477	47,334	90,245	3,245	
Hubei	17,586	2,528	15,058	11,763	5,823	159	
Hunan	38,532	1,548	36,984	31,127	7,405	1,279	
Guangdong	109,516	5,452	104,064	78,891	30,625	4,171	
Guangxi	68,781	3,867	64,914	36,992	31,789	118	
Sichuan	19,117	705	18,412	15,675	3,442	164	
Guizhou	9,274	1,575	7,699	8,509	765	387	
Yunnan	20,340	583	19,757	18,591	1,749	49	
Xizang	—	—	—	—	—	—	
Shaanxi	54,342	1,471	52,871	44,598	9,744	332	
Gansu	30,623	2,591	28,032	23,258	7,365	321	
Qinghai	11,414	317	11,097	9,397	2,017	95	
Ningxia	16,940	556	16,384	15,729	1,211	91	
Xinjiang	3,792	470	3,322	3,673	119	153	

Draft supplied by Planning Department of Ministry of Agriculture, Animal Husbandry and Fishery

Natural Disasters

Disaster Areas and Disaster-Stricken Areas

Unit: 10,000 hectares

Year	Dis- aster area	Dis- aster stricken area	Dis- aster stricken area in disaster area (percent)	Flood			Drought		
				Dis- aster area	Dis- aster stricken area	Percent- age of disaster stricken area in disaster area	Dis- aster area	Dis- aster stricken area	Percent- age of disas- ter stricken area in disaster area
1952	819	443	54.1	279	184	65.9	424	259	61.1
1957	2,915	1,498	51.4	808	603	74.6	1,721	740	43.0
1962	3,718	1,667	44.8	981	632	64.4	2,081	869	41.8
1965	2,080	1,122	53.9	559	281	50.3	1,363	811	59.5
1970	997	330	33.1	313	123	39.3	572	193	33.7
1975	3,538	1,024	28.9	682	347	50.9	2,483	532	21.4
1978	5,079	2,180	42.9	285	92	32.3	4,017	1,797	44.7
1979	3,937	1,512	38.4	676	287	42.5	2,465	932	37.8
1980	4,453	2,232	50.1	915	503	54.9	2,611	1,249	47.8
1981	3,979	1,874	47.1	862	397	46.1	2,569	1,213	47.2
1982	3,276	1,599	48.8	8.36	446	53.3	2,070	997	48.2

Draft supplied by State Statistical Bureau

Farmland Capital Construction

Investment in Agriculture, Forestry, Water Conservancy, and Meteorology in Various Provinces, Municipalities, and Autonomous Regions

Unit: 100 million yuan

Region	Total	1. Agri-culture	2. Forestry	3. Water conservancy	4. Meteorology
National total	34.12	12.74	3.25	17.74	0.39
Beijing	1.30	0.45	0.05	0.67	0.13
Tianjin	3.53	0.15	0.01	3.36	0.01
Hebei	1.69	0.22	0.08	1.38	0.01
Shanxi	0.59	0.10	0.16	0.32	0.01
Nei Monggol	0.77	0.36	0.32	0.07	0.02
Liaoning	0.95	0.39	0.13	0.42	0.01
Jilin	0.57	0.26	0.06	0.24	0.01
Heilongjiang	2.68	2.06	0.22	0.39	0.01
Shanghai	0.49	0.40	0.01	0.07	0.01
Jiangsu	0.44	0.17	0.02	0.25	
Zhejiang	0.71	0.22	0.07	0.40	0.02
Anhui	0.60	0.11	0.04	0.44	0.01
Fujian	0.76	0.35	0.12	0.28	0.01
Jiangxi	0.86	0.21	0.31	0.34	...
Shandong	0.94	0.39	0.04	0.50	0.01
Henan	1.38	0.16	0.07	1.14	0.01
Hubei	1.47	0.35	0.15	0.95	0.07
Hunan	1.07	0.25	0.10	0.71	0.01
Guangdong	5.00	3.48	0.31	1.19	0.02
Guangxi	1.15	0.51	0.32	0.32	...
Sichuan	1.16	0.21	0.10	0.83	0.02
Guizhou	0.27	0.04	0.06	0.17	...
Yunnan	1.04	0.48	0.09	0.46	0.01
Xizang	0.05	0.02	...	0.03	...
Shaanxi	0.53	0.07	0.10	0.35	0.01
Gansu	0.90	0.25	0.11	0.50	0.01
Qinghai	0.35	0.18	0.02	0.14	0.01
Ningxia	0.42	0.12	0.07	0.23	...
Xinjiang	1.38	0.77	0.07	0.52	0.02
Not belonging to any specific region	1.07			1.07	

Draft supplied by State Statistical Bureau

State Finance

Status of State Financial Receipts and Payments

Unit: 100 million yuan

	1982	1981	1982 as percentage of 1981
I. State financial receipts	1,124.0	1,089.5	103.2
Of which: Agricultural tax	29.4	28.4	103.5
As percentage of state financial receipts	2.6	2.6	
II. State financial payments	1,153.3	1,115.0	103.4
Of which: Expenditures on agriculture		115.2	
As percentage of state financial payments		10.3	

Draft supplied by State Statistical Bureau

Status of Deposits and Loans of Rural Credit Cooperatives

Unit: 100 million yuan

	Year-end surplus	
	1982	1981
Total deposits of various types	389.88	319.61
Deposits from commune and brigade collectives	121.06	113.24
Deposits from commune- and brigade-run enterprises	33.66	29.73
Deposits from individual commune members	228.11	169.55
Other deposits	7.05	7.09
Total loans of various types	121.15	96.38
Agricultural loans to communes and brigades	34.76	35.71
Loans to commune- and brigade-run enterprises	42.30	35.46
Loans to individual commune members	44.09	25.21

Draft supplied by State Statistical Bureau

Rural Commerce, Village Fairs

Total Volume of Agricultural Sideline Product Procurement and Increase/Decrease in Amounts of Procurement

Items	Unit	1982	1981	Increase or decrease in 1982 compared with 1981	
				Absolute figure	Percent
Total volume of agricultural sideline product procurement	100 million yuan	1,083.0	955.0	128.0	13.4
Grain	10,000 tons	7,805.5	6,845.5	960.0	14.0
Edible plant oil	"	308.0	272.0	36.0	13.2
Pigs	10,000 head	14,463.3	13,723.8	739.5	5.4
Beef cattle	"	234.1	241.4	-7.3	-3.0
Sheep	"	1,819.7	2,068.2	-248.5	-12.0
Fresh eggs	10,000 tons	108.6	98.9	9.7	9.8
Aquatic products	"	287.9	244.0	43.9	18.0
Tea	"	35.3	32.3	3.0	9.3
Cotton	"	341.6	287.2	54.4	18.9
Jute, ambari hemp	"	60.0	61.2	-1.2	-2.0
Ramie	"	5.6	4.6	1.0	21.7
Sugar cane	"	2,248.7	1,726.1	522.6	30.3
Sugar beets	"	610.9	572.9	38.0	6.6
Cured tobacco	"	176.1	125.9	50.2	39.9
Mulberry silkworm cocoons	"	25.9	22.1	3.8	17.2
Tussah silkworm cocoons	"	5.9	6.2	-0.3	-4.8
Bamboo	10,000 lengths	10,323.5	9,178.6	1,144.9	12.5
Wool	10,000 tons	18.7	17.6	1.1	6.3
Cowhide	10,000 sheets	379.0	378.0	1.0	0.3
Sheepskin	"	1,983.0	1,821.0	162.0	8.9
Goatskin	"	4,400.0	4,606.0	-206.0	-4.5
Pig bristles	10,000 cases	19.8	21.4	-1.6	-7.5
Casing	10,000 lengths	8,296.5	9,383.0	-1,086.5	-11.6
Tung oil	10,000 tons	9.3	10.1	-0.8	-7.9

Draft supplied by State Statistical Bureau

Volume of Retail Sales From Peasants
to Nonagricultural Population in
Village Fairs of Various Provinces,
Municipalities, and Autonomous Regions

Unit: 100 million yuan

Region	1982	1981	Region	Provin- cial (muni- cipal- regional) areas	Agricul- tural sideline products on urban markets	Village fairs
National total	110.80	89.40	National total	103.5	103.3	103.9
Beijing	0.74	0.66	Beijing	105.3	105.3	
Tianjin	0.84	0.72	Tianjin	101.7	101.7	
Hebei	3.42	2.16	Hebei	102.5	101.9	103.3
Shanxi	1.78	1.53	Shanxi	106.5	103.3	108.5
Nei Monggol	1.60	1.26	Nei Monggol	108.9	104.9	109.6
Liaoning	6.45	5.47	Liaoning	101.4	101.3	101.4
Jilin	3.48	2.58	Jilin	104.4	105.0	104.1
Heilongjiang	2.67	2.07	Heilongjiang	107.3	108.8	106.2
Shanghai	1.58	1.55	Shanghai	95.0	95.0	
Jiangsu	6.97	5.83	Jiangsu	99.6	98.5	100.1
Zhejiang	6.32	5.12	Zhejiang	100.2	100.3	100.2
Anhui	5.00	3.90	Anhui	100.2	100.2	100.2
Fujian	4.19	3.81	Fujian	107.7	108.6	107.3
Jiangxi	4.56	4.11	Jiangxi	106.5	107.5	105.7
Shandong	4.82	3.51	Shandong	103.6	103.7	103.5
Henan	5.02	4.16	Henan	102.2	102.6	101.7
Hubei	6.56	4.23	Hubei	103.7	104.6	103.4
Hunan	5.30	4.34	Hunan	107.3	104.2	108.9
Guangdong	11.94	9.61	Guangdong	106.5	107.5	106.4
Guangxi	5.85	5.12	Guangxi	106.9	108.6	106.1
Sichuan	8.76	7.57	Sichuan	103.4	103.9	102.8
Guizhou	3.41	2.45	Guizhou	107.5	106.9	108.1
Yunnan	3.00	2.35	Yunnan	106.0	109.4	105.4
Xizang	0.17		Xizang			
Shaanxi	2.42	2.17	Shaanxi	97.7	95.7	97.9
Gansu	1.61	1.08	Gansu	101.1	95.7	103.5
Qinghai	0.33	0.20	Qinghai	102.5	102.9	102.2
Ningxia	0.38	0.22	Ningxia	99.4	102.5	97.2
Xinjiang	1.66	1.54	Xinjiang	102.5	101.9	102.8

Draft supplied by State Statistical Bureau

Average Mixed Procurement Prices of Agricultural Sideline Products

Item	Unit	1982	1981	1980
Grain	Ton	392.2	381.7	360.6
Edible plant oil	"	2,772.9	2,818.8	2,640.8
Pigs	Head	123.8	120.7	115.7
Beef cattle	"	226.7	175.4	154.3
Sheep	"	25.0	25.6	21.7
Poultry	100	312.3	278.1	263.0
Fresh eggs	100 kg	186.4	184.0	171.4
Aquatic products	Ton	922	870	770
Fresh vegetables	100 kg	10.6	11.2	10.4
Tea	"	354.8	323.8	315.6
Sugar cane	Ton	50.0	54.0	50.3
Sugar beets	"	85.4	87.0	85.2
Honey	100 kg	188.2	189.8	200.8
Apples	Ton	387	346	344
Citrus	"	481	515	445
Ginned cotton	100 kg	323.6	311.6	317.4
Cured tobacco	"	153.2	159.6	140.2
Jute, ambari hemp	"	48.0	47.0	54.1
Hemp	"	170.0	161.4	180.0
Ramie	"	216.0	217.0	234.2
Mulberry silkworm cocoons	"	128.4	125.4	130.0
Tussah silkworm cocoons	"	345.6	339.2	340.8
Cowhide	Sheets	24.2	21.8	24.2
Sheepskin	"	4.7	4.7	4.5
Goatskin	"	4.3	4.2	4.1
Sheep wool	100 kg	358	348	343
Goat wool	"	209	242	241
Bamboo	10,000 lengths	12,100	11,518	9,535
Lacquer	100 kg	1.274	1.275	1.260

Draft supplied by State Statistical Bureau

Indices of List Prices for Procurement of Different Agricultural Sideline Products by State Sector of Commerce (as percentage of 1950 prices)

	1952	1957	1965	1978	1980	1982
General indices	121.6	146.2	185.1	207.3	251.2	257.7
I. Grain	121.4	141.4	190.9	224.4	271.8	283.5
II. Cash crops	113.0	126.4	152.8	174.0	210.8	215.2
1. Plant oil	108.2	167.9	246.7	321.3	398.5	398.9
2. Cotton	113.3	111.1	122.9	138.8	179.0	179.0
3. Bast fiber	131.0	139.9	170.3	188.0	209.6	208.0
4. Tobacco	116.5	124.0	174.0	176.6	184.7	215.5
5. Sugar	87.2	102.9	135.3	151.5	189.3	199.3
6. Tea	154.7	241.6	304.1	330.4	365.1	372.8
III. Animal products	105.7	145.5	192.1	201.8	255.8	259.4
1. Meat cattle	102.7	142.9	193.2	200.2	255.3	256.9
2. Eggs	104.7	152.5	188.5	217.4	262.5	284.6
3. Hide	136.8	150.2	163.1	182.6	229.9	239.2
4. Bristles	136.5	143.1	168.3	186.9	212.3	217.6
IV. Other agricultural sideline products	160.6	210.2	251.4	279.8	317.9	330.7
1. Timber	115.1	105.9	141.7	173.3	230.8	310.4
2. Industrial paint	103.9	132.1	211.9	275.1	319.5	318.5
3. Silkworm cocoons and silk	115.9	122.0	163.8	176.4	211.9	214.9
4. Dried fruits	130.7	160.2	183.1	205.1	220.1	228.5
5. Dried and fresh vegetables, condiments	179.0	237.2	235.0	259.3	302.7	315.3
6. Medicinal herb	136.7	222.3	297.2	272.0	279.7	287.3
7. Native sideline products	177.4	234.3	306.0	350.7	375.7	382.2
8. Aquatic products	105.0	145.0	175.2	182.6	215.5	217.7

Draft supplied by State Statistical Bureau

General List Price Indices of Rural Industrial Products and Agricultural Sideline Products

Base period	General list price indices of rural industrial products	General list price indices for procurement of agricultural sideline products	Comprehensive industrial, agricultural, and commercial price indices (as percentage of general list price indices for procurement of agricultural sideline products)
100 as the average in 1930-1936	287.9	485.9	59.3
100 as 1950 price	113.7	257.7	44.1
100 as 1952 price	103.6	215.7	48.0
100 as 1957 price	101.4	176.3	57.5
100 as 1962 price	89.8	133.7	67.2
100 as 1965 price	96.0	139.2	69.0
100 as 1970 price	101.6	133.1	76.3
100 as 1975 price	103.7	128.1	80.9
100 as 1978 price	103.5	124.3	83.3
100 as 1980 price	102.6	102.6	100.0
100 as 1981 price	101.6	100.2	101.4

Draft supplied by State Statistical Bureau

Retail Sales Volume of Rural Commodities and Indices

Year	Retail sales volume of rural commodities (100 million yuan)		Indices (as percentage of 1952)	
	Total	Of which: Means of agricultural production	Total	Of which: Means of agricultural production
1952	151.2	14.1	100	100
1957	235.8	32.6	156.0	231.2
1965	331.4	80.2	219.2	568.8
1978	810.1	293.7	536.0	2,083.0
1979	984.8	324.0	651.3	2,297.9
1980	1,189.7	346.0	786.8	2,453.9
1981	1,324.0	347.5	875.7	2,464.5
1982	1,480.8	388.5	978.8	2,755.3

Draft supplied by State Statistical Bureau

Price Parity in Exchange of Agricultural for Industrial Products

Agricultural products	Industrial products	1952	1980	1981	1982
Wheat	Salt (kg)	70	117	116	116
	Refined sugar (kg)	11	21	21	21
	White cloth (meter)	19	35	35	35
	Matches (100 cases)	8	16	16	16
	Kerosene (kg)	15	47	46	46
Cereals	Salt (kg)	43	98	96	96
	Refined sugar (kg)	8	17	17	17
	White cloth (meter)	13	29	29	29
	Matches (100 cases)	6	14	13	13
	Kerosene (kg)	9	39	38	38
Maize	Salt (kg)	38	81	81	80
	Refined sugar (kg)	6	15	15	15
	White cloth (meter)	10	24	25	25
	Matches (100 cases)	5	11	11	11
	Kerosene (kg)	8	32	32	32
Soybean	Salt (kg)	63	172	259	258
	Refined sugar (kg)	9	30	42	43
	White cloth (meter)	13	50	73	75
	Matches (100 cases)	6	23	34	34
	Kerosene (kg)	13	67	100	100
Peanut	Salt (kg)	82	244	245	249
	Refined sugar (kg)	16	45	43	44
	White cloth (meter)	19	74	72	72
	Matches (100 cases)	9	34	34	34
	Kerosene (kg)	16	96	95	96
Rapeseed	Salt (kg)	64	248	245	244
	Refined sugar (kg)	13	45	46	46
	White cloth (meter)	19	76	76	77
	Matches (100 cases)	10	36	36	36
	Kerosene (kg)	16	102	98	97
Sesame	Salt (kg)	94	415	413	412
	Refined sugar (kg)	20	74	74	74
	White cloth (meter)	33	129	127	128
	Matches (100 cases)	15	58	58	58
	Kerosene (kg)	26	162	162	162
Ginned cotton	Salt (kg)	638	1,033	1,052	1,065
	Refined sugar (kg)	117	187	188	188
	White cloth (meter)	185	322	322	327
	Matches (100 cases)	93	148	149	150
	Kerosene (kg)	159	425	425	429

Yearend Number of Peasants' Major Durable Articles in Various Provinces, Municipalities, and Autonomous Regions

Region	Bicycles (each/ 100 persons)	Sewing ma- chines (each/ 100 persons)	Radios (each/ 100 persons)	Clocks and watches (each/ 100 persons)	Of which: Watches (each/ 100 persons)	TV sets (each/ 100 persons)	Cas- sette recor- ders (each/ 100 persons)	Electric fans (each/ 100 persons)
National total	9.43	6.00	9.24	19.11	12.54	0.31	0.12	0.42
Beijing	30.44	11.66	20.98	52.07	34.97	6.87	0.44	1.94
Tianjin	25.00	11.78	18.07	41.68	22.70	3.48	—	1.10
Hebei	18.31	9.82	15.26	23.95	11.72	0.15	0.03	0.04
Shanxi	14.54	10.77	9.55	22.77	13.58	0.10	—	—
Nei Monggol	13.38	10.45	11.51	20.67	11.86	0.16	0.08	—
Liaoning	16.88	11.55	14.79	38.67	22.03	1.89	0.24	0.08
Jilin	9.81	9.51	15.15	29.50	16.75	—	—	—
Heilongjiang	9.78	9.92	14.03	25.99	17.22	0.14	0.08	0.03
Shanghai	22.13	14.02	13.62	58.14	41.73	3.06	0.40	4.58
Jiangsu	11.25	4.69	11.47	28.07	19.24	0.10	0.02	0.29
Zhejiang	7.02	6.39	5.34	36.22	24.91	0.16	0.04	1.29
Anhui	5.00	3.90	10.78	11.71	8.45	0.04	—	0.24
Fujian	3.30	6.04	5.66	26.96	18.91	0.08	0.15	0.46
Jiangxi	2.91	1.80	8.52	16.52	11.57	—	0.03	0.13
Shandong	18.78	7.80	14.09	21.35	11.85	0.10	0.01	0.03
Henan	9.65	7.50	11.64	10.44	7.16	0.02	0.02	—
Hubei	4.36	3.99	8.48	12.39	9.84	0.04	0.04	0.11
Hunan	2.99	2.99	4.60	15.20	12.42	0.04	0.01	0.11
Guangdong	15.90	8.60	9.94	33.13	22.18	0.77	1.34	4.91
Guangxi	12.00	6.00	4.00	15.00	10.00	0.10	0.10	0.47
Sichuan	2.71	1.50	5.73	13.30	9.32	0.13	0.09	0.05
Guizhou	1.32	2.16	1.96	8.09	6.41	0.07	0.11	0.02
Yunnan	2.56	2.29	3.94	8.71	7.19	0.08	0.25	—
Xizang	—	—	—	—	—	—	—	—
Shaanxi	8.19	6.61	8.64	10.45	5.82	0.06	0.02	0.02
Gansu	7.32	4.77	5.21	10.95	6.27	0.04	0.04	—
Qinghai	5.63	5.18	4.28	9.57	5.07	—	—	—
Ningxia	15.37	7.57	9.63	17.52	12.95	0.69	0.02	—
Xinjiang	8.76	8.80	8.49	14.70	10.10	0.20	0.24	—

Draft supplied by State Statistical Bureau

Per Capita Housing Area and New Housing Area of Peasants in Various Provinces, Municipalities, and Autonomous Regions

Region	Area of houses built in current year	Yearend floor space	Region	Area of houses built in current year	Yearend floor space
National total	0.86	10.73	Shandong	1.04	10.64
Beijing	1.92	11.98	Henan	0.82	9.72
Tianjin	1.09	9.76	Hubei	0.95	14.47
Hebei	0.99	11.36	Hunan	1.15	12.89
Shanxi	0.62	10.26	Guangdong	0.81	11.39
Nei Monggol	0.67	7.66	Guangxi	0.58	10.78
Liaoning	0.62	10.87	Sichuan	0.78	10.94
Jilin	0.44	9.23	Guizhou	0.69	10.83
Heilongjiang	0.41	7.91	Yunnan	0.57	9.45
Shanghai	3.35	17.97	Xizang		
Jiangsu	1.30	11.41	Shaanxi	0.61	8.59
Zhejiang	1.73	14.69	Gansu	0.86	10.68
Anhui	0.81	10.21	Qinghai	0.47	6.24
Fujian	0.83	7.67	Ningxia	0.53	8.58
Jiangxi	0.81	11.57	Xinjiang	0.30	7.83

Draft supplied by State Statistical Bureau

Agriculture

Output-Related Responsibility System

The system of responsibility for production in various forms was popularized by all rural communes and brigades or teams in the country in 1981. Practice in the past several years has proved that the output-related responsibility system has greater adaptability, and at the end of 1982, it accounted for more than 80 percent of the responsibility systems adopted by the rural communes and brigades or teams.

In contracting and distribution, output-related responsibility can be classified into contracting for output and contracting for work, or contracting for output to groups, to labor units or to households, and contracting for work to groups, to labor units or to households. As can be seen from the developments in the output-related responsibility system in various localities, contracting for output has gradually become contracting for work, while contracting to groups and labor units has been gradually replaced by contracting to households. In other words, "double-contracting" to households has mostly become contracting for work to households. According to statistics of October 1981, only 38 percent of the rural communes and brigades or teams practiced the system of contracting work to households. Even if contracting output to the households is taken into account, the proportion could only be raised to 48.8 percent. In November 1982, however, the proportion of communes and brigades or units practicing "double contracting" reached 78.66 percent, and more than 75 percent practiced contracting work to households. Of the 29 provinces, municipalities, and autonomous regions (Taiwan Province excepted), 16 had practiced "double contracting" to households in more than 80 percent of their communes, brigades, and teams; and another 6 practiced the same system in more than half of their communes and brigades or teams. Output-related responsibility has thus become the main system of responsibility for agricultural production throughout the country.

The output-related responsibility system in agriculture is suitable not only for poor regions with backward production and a single-product economy, but also for rich regions with well-developed economy and high degree of specialization. In Yixing County of Jiangsu Province in the Taihu region, the main system of responsibility for production in 1981 was unified management with output quotas fixed for labor units. In 1982, more than 70 percent of the brigades or teams practiced the system of unified management and contracting for specialized work and for distribution. This means that except for industry and sideline production, all systems in agriculture were changed to that of contracting work to households. This system fully embodied the principle of centralized or decentralized management according to local conditions, helped arouse the enthusiasm of individual commune members, and greatly improved economic results. In Yixing County, both the total output and the per-mu output of grain in 1982 turned out to be the highest on record; in 1982, compared with 1981, summer grain increased by 74.7 percent, and its rapeseed output more than doubled. In the first 9 months of 1982, the output of value of industrial and sideline products was increased by about 9 percent over the same period of the previous year.

These forms of responsibility system began in crop farming and animal breeding, and later developed into forestry, fishery, commerce, and service trade. Juyantuo Brigade of Joshuihe Commune in Lingqiu County, Shanxi Province, had 1,500 mu of land suitable for afforestation, and only 300 mu of it was planted with trees. After 1981, the work of planting trees on waste mountains was contracted to households. These forests were managed and owned by those who had planted the trees. The accumulations were handed over to the higher levels and the contract remained in force permanently. Thus, the plan for the afforestation of 1,000 mu of waste mountain, which formerly took 3 years, was fulfilled within 1 year, and the survival rate of trees reached 75 percent. Bairin Right Banner of Nei Monggol adopted the system of responsibility for cattle, and in 1981, achieved "three highs and one low," meaning high total livestock output, high survival rate, high maturity rate, and low mortality rate. In 1982, it set the best record in animal husbandry. In Tangshan Prefecture, Hebei, 527 fishing teams of Youyu Commune on the coast adopted the output-related responsibility system and in the first half year had an output of 18,474 tons with an output value of 11.09 million yuan, 61.6 percent and 93.9 percent, respectively, higher than in the same period of the previous year.

Adoption of the output-related responsibility system has increased labor productivity several times over, resulting in increased output and increased income everywhere. Since the peasants had more funds and surplus labor, many specialized (priority) households have emerged. The increase in the number of contracting households for farm work (in all-round contracts in agriculture), contracting households for specialized work, and self-employed specialized (priority) households has also spurred on the development of rural commodity economy as well as the specialization and socialization of agricultural production. New cooperative relations in the production process were thus formed spontaneously according to the development of production among the peasant households, and various forms of economic integration were formed on the basis of voluntary participation and mutual benefits. For cooperation and integration in technical measures, there are households joining together in nursing seedlings, seed preparations, pest prevention, sinking wells, and acquiring farm machines. For cooperation in utilizing natural resources for agriculture, there are households joining together in fish-breeding, afforestation, and operating quarries or small coal mines. In addition to agriculture, integration can also be formed for the processing of agricultural sideline products and in the building material trade, transportation trade, commerce, and service trade.

Mass practice has shown that cooperation and integration in various forms on the basis of the output-related responsibility system will make the road of socialist cooperation in agriculture more consistent with the realities in China. In other words, the households being contracted for crop farming are in effect self-employed. This system must remain stable for a long time and cannot be changed at will. If necessary, cooperation and integration can also be practiced in such links of production as seed preparation, germination, plant protection and other agrotechnologies, and the acquisition of agricultural machinery. Furthermore, along with the developments in the division of labor in crop farming, some peasant households are gradually changing

their form of business from single-product agriculture to economic diversification, industry, sideline occupation, transportation, commerce and service trades, and forming both horizontal and vertical integrated economic entities to be operated in different ways. Thus, a new network is being formed beyond the limits of crop farming. It can be predicted that contracting work to the households, the appearance of various specialized (priority) households in crop farming in the countryside, and the coexistence and development of various multilevel economic forms, such as economic integration on the basis of voluntary participation and mutual benefits, will provide a new way suitable for our national conditions and for modernization in the countryside, and that the entire rural economy will undergo a fundamental change.

Extensive Development of Specialized (Priority) Households

There has been extensive development of specialized (priority) households in the countryside since 1982, following the progress of economic diversification and the adoption of the output-related responsibility system. The proportion of specialized households in the total number of peasant households has increased from several percent to more than 10 percent, and there is now about 1 specialized household in every 10 peasant households. Besides specializing in grain production, these households are also engaged in animal breeding, forestry, transportation, industry, sideline production, and commerce without abandoning the plots contracted to them. In this sense, they are taking on side jobs. As production continues to develop, some peasant households will be separated from agriculture or crop farming. From being "small and complete" as they were in the past, they will become "small and specialized." On the one hand, as the number of specialized household grows, and the degree of specialization rises, the division of specialized work will be more and more minute. On the other hand, economic integration will take more diversified forms to meet the needs of commodity production.

The development of specialized households has shown that in order to be able to sell what they have produced, the specialized households must get rid of the notion that "every family farming some plot will be small and complete" in a natural economy and gradually concentrate their efforts on one or two key products before they can raise their labor productivity and commodity rate, and fully demonstrate the superiority of specialized production. Liu Sijin [0491 2448 6651] of Doumen Commune in Changan County, Shaanxi, formerly raised chickens and pigs. Now, he has more than 300 chickens and has given up pig raising. Wei Xiuying [7279 4423 5391] of Chengguan Commune in Zhouzhi County, formerly raised not only more than 100 chickens, but also several pigs and more than 100 quail. When she had more than 300 chickens, she sold all her pigs and quail. More than 20 outstanding commodity-producing households emerged in Yinchang Prefecture, Hubei, in the past 2 years. Among them were Fang Tianhe [2455 1131 0735] of the 6th Guochang Team of Herong Commune, Dangyang County, who sold 40,000 jin of grain each year; Yue Jixiao [1471 4949 1321] of the 1st Qunhua Team of Cihua Commune, Dangyang County who sold more than 4,000 jin of cotton each year; Wu Guangfu [0702 0342 1381] of the 4th Production Team of Banyue Commune, Dangyang County, who sold more than 5,000 jin of sesame each year; Liu Shibin [0491 1102 2430] of the 5th Hongsheng Team of Guandang Commune, Dangyang County, who sold 3,000 jin of rapeseed

each year; Liu Mingjin [0491 2494 6855] of the 2d Donglin Team of Qishengtai Commune in Zhijiang County who raised 80 pigs and sold 70 of them each year; Feng Shede [7458 1102 1795] of the 4th Lushan Team of Guandang Commune, Dangyang County, who raised 1,100 ducks and sold more than 18,000 jin of duck eggs each year; Shang Dingguo [1728 1353 0948] of the 2d Maozhuang Team of Wantan Commune in Wufeng County, who had an annual income of more than 50,000 yuan from the sales of medicinal herbs; and so forth. All of them have gradually concentrated their manpower and material resources on one or two undertakings so that they could more conveniently strengthen their management and apply scientific methods and thus markedly increase their labor productivity and commodity rate. Now, there are early signs of the division of work even in certain stages of production. In chicken raising for example, some are engaged full time in hatching, others in producing eggs and still others in taking care of chicks. For the full-time hatching workers, there are also specialized chicken-raising households for the supply of eggs to be hatched.

Since the specialized households are engaged in commodity production, they must form extensive economic and technical connections in the society. Now there is the problem of you serving me and I serving you as well as the problem of production, supply, and marketing, all demanding better social service. A specialized household which raises 1,000 chickens, for example, will have great difficulty with the problems of stock for breed, fodders, immunization, and marketing their products. That was how such organizations as specialized companies and service stations have emerged in various localities and have become more diversified in forms and substance to meet the requirements of commodity production and to offer services before and after the production process. These services can generally be given in two different forms: First, in the form of jointly operated companies. In Guxi District of Lanzhou City, for example, there is a jointly operated chicken-raising company. In accordance with relevant policies, it organized cooperation among different specialized households, summed up, and popularized the methods and experiences of chicken raising, organized the transfer of technologies, imported good eggs for hatching, supplied fish meal, guarded against pests, and helped the specialized households to obtain loans and to solve the problems of production, supply, and marketing. The broad masses of specialized households said with great satisfaction: "Since we have a chicken-raising company, there is now some one to listen to our views and handle our affairs. Now we can count on support in our work." There are many different types of jointly operated companies, such as supply and marketing cooperatives in the state sector of commerce, commune- and brigade-run enterprises, and joint ventures of the departments of science and technology and the local specialized households. There are also joint operations in single and sporadic undertakings between the specialized households and the state or collective sector through contracts.

Second, in the form of economic organizations offering various services. Henglan Commune of Zhongshan County in Guangdong formed a service company for the breeding of fowls and cattle in March 1982. Through contracts with specialized households, this company offers "five guarantees" meaning guarantees for the supply of stock for breeding and fodders, loans for production,

scientific and technical guidance in breeding, immunization including free inoculations, and assistance in sales. Every specialized household pays the company 3.5 percent of its total investment for operating expenses, and a certain amount of technical service fees based on the survival rate of the fowls and animals. The company signs contracts with commune members, and the brigade will oversee the fulfillment of contracts by both parties. Service companies (or stations) can be formed by the collectives, jointly by collectives and households, by a group of households, or by individuals. Some of them are formed of state economic organizations.

The many specialized households and their participation in various forms of economic integration have accelerated the change from a self-sufficient or semi-self-sufficient economy to that of a commodity production, and from traditional to modern agriculture. They are the embryos of specialized and socialized agricultural production in China. At present, we must note the new developments and new problems among the specialized households, work out timely policies and measures that are consistent with our national conditions and with the laws of economic development in China, help these households solve their problems in production and management and do everything possible to foster their growth.

A. On the question of policies. The formation and development of specialized households will inevitably break down old conventions and some existing policies. We must take the attitude of supporting, helping, and guiding the peasants in invigorating the rural economy through relevant policies and measures.

1. On responsibility plots. At present, the level of productive forces and their socialization in the countryside are very low, and conditions are not quite ripe for specialized households to be entirely separated from their responsibility for the land and grain production. Therefore, we cannot violate the principle of voluntary participation by forcing them to give up their responsibility plots or forcibly take these plots away from them. Of course, some specialized households under pressure of work may willingly return a part or the whole of their responsibility plots and teams may also transfer such plots to other households which are in a condition to take them over. However, we should at the same time properly solve the problems of grain ration and fodder supply for these specialized households. This measure will facilitate the concentration of land for intensive farming and also help the specialized households to become even more specialized. However, we cannot insist on the return of responsibility plots by the specialized households as we may do to other commune members.

2. On the supply of the means of production and the marketing of products. Some of the specialized households' products may be sold to the state through contracts with the commercial department, while others may go directly into circulation just like the products of the state and the collection sector, thus enabling the specialized households to coordinate their production with marketing. The departments concerned should support the specialized households' production in the supply of materials and the marketing of products.

3. A clear-cut tax policy to be worked out as soon as possible. In the absence of any clear-cut government tax policy, specialized households cannot feel secure with their high profits. Zhang Yifu [1728 5030 1381] of a duck-raising household in Qunhua Brigade, Cihua Commune, Dangyang County, Hubei, for example, became a "10,000-yuan rich man" in 1982, and some commune members gave him this advice: "You better stop now, lest you become a negative example and be classified as a new landlord." Thus, he decided not to earn any more money after depositing 10,000 yuan in the bank next year. There have been many similar cases reflecting the "fear of change" among specialized households. If there is a clear-cut tax policy, the specialized households can simply pay the required taxes and have their earnings legalized and need not worry about the consequences of developing their production.

4. Formulation and implementation of state policies and decrees for the protection of specialized households. Some basic-level cadres and people have become jealous of the specialized households' rapid rise in fortune and would try to "strangle" or to "get something" out of them. They would concoct various pretexts to apportion some expenses, to collect fees, or even to undermine their production by destroying their equipment and depriving them of their legitimate economic gains. Recently, the government departments concerned have worked out policies and decrees to protect the specialized households. These measures are necessary for those peasants who are working their way to wealth, and must be resolutely enforced.

5. "Competition" within certain limits. The appearance of successful specialized households will certainly lead to "competition" from certain enterprises run by communes and brigades or certain state-run enterprises. Several peasant households of Ganxi Brigade of Dawang Commune in Yangxin County, Hubei, formed a processing factory for agricultural sideline products. This factory offered good services and charged low fees, and the commune members were glad to patronize it. This led to the bankruptcy of three collective processing factories run by the same brigades. Some people said: "This is terrible! Just think of capitalism undermining socialism." The peasant households which owned the processing factory had to go through a period of great anxiety. In the supply of pig feed and chicken feed in some localities, the allocated amount for the state sector is more than for the collective sector, and the supply for the collective sector is in turn more than for commune members. The broad masses are dissatisfied with this arrangement and steps should be taken to provide equitable treatment to all.

6. On economic integration. While assisting in the organization of new integrated bodies, we must adhere to the principle of voluntary participation and mutual benefits among the specialized households, and guide them according to the circumstances. We must wait until the conditions are ripe instead of taking any hasty action which may cause damage. At present, we must carefully avoid the old path of the "merger of brigades or communes" or "combining" them hastily with administrative methods in the name of "providing more active leadership."

B. Several Specific Measures

1. Gradually set up service agencies of various types and run them well. Agencies for the supply of stock for breeding and fodders, the protection of animals and plants, transportation, marketing, technical service, and so forth, must be gradually set up according to the needs of the specialized households for production. These agencies must be run well in order to help these households develop their production along the road of socialization. In the case of animal breeding and feeding, for example, we should set up four service systems: first, the system of cultivation, propagating and supplying fine breeds; second, the system of producing and supplying fodders and purchasing and marketing the products; third, the system of pest prevention; and fourth, the system of popularizing science and technology. We must resolutely eliminate the inferior and popularize the superior breeds; improve the supply of fodders and lower their production costs; and help the specialized households master the knowledge of medical treatment and pest prevention. The departments concerned should initiate the system of door-to-door service. Through surveys on the market, resources, and technology, we should do a good job in the transmission and dissemination of timely market information to guide the specialized households in production and to minimize rash action in business operation.
2. Improve the contract system. In accordance with the state's planned economy, contracts will be signed between the commercial departments and the specialized households for the important products produced in large quantities to be included directly or indirectly in the state plans. The supply of raw materials and the procurement of products should be guaranteed by these contracts so that the stability of prices and continuity of production may be maintained.
3. Full utilization of loans and taxes as economic levers. The production and management of specialized households are separately carried out with households as units. They are to a certain extent regulated by the market, and are apt to act blindly in the course of development. To ensure their healthy growth, we must bring into play the role of loans, taxes, and price as economic levers, besides running various service agencies well, strengthening the contract system, and preventing these households from deviating from the socialist road. For certain products which are urgently needed by the state and the people, or are in short supply on the market, support for specialized households can be given in the form of bank loans or low-interest loans to help in their continued development. Those projects which do not require hired help and are not worth further developing should be restricted by means of taxation.
4. Active popularization of science and technology. Specialized households generally are up to a certain cultural standard and have certain scientific knowledge and a better business mentality. They are different from those peasants who keep themselves within the narrow confines of individual economy, and most of them are the vanguard in learning and applying science. They are particularly keen in the pursuit of scientific and technical knowledge, and should be given every support through the running of training classes, the

compilation of reference materials, and the holding of technical exchange meetings. These measures are important and decisive factors in the continued rise in their labor productivity and commodity rate.

Pattern of Agricultural Production Gradually Becoming Rational

In accordance with the decision of the 3d Plenum of the 11th CPC Central Committee on the acceleration of agricultural development, China began to readjust its irrational pattern of agricultural production in 1979. Efforts in this direction continued in 1982 and the longstanding mistakes of the past in producing only grain and neglecting cash crops, forestry, animal husbandry, sideline production and fishery has been basically corrected. The pattern of agricultural production has gradually become rational.

A salient feature of this readjustment is the strengthening of planned guidance on the basis of macroeconomics. In accordance with the requirements for all-round development of agriculture, forestry, animal husbandry, sideline production, and fishery and the principle of sparing no effort in promoting grain production and actively developing economic diversification, and under planned guidance, each sector has further developed its strong points to ensure that the development of production in various branches of agriculture and the rational use of agricultural resources could meet the diversified demands in the society. In the use of land, we now use the farmland that is unsuitable for grain crops to grow other crops. In the farmland suitable for grain crops, the production of some raw materials urgently needed by the state, such as cotton and sugar, is being encouraged. Special efforts are also being made to develop the natural resources in the mountainous and water areas, beaches, and pastures, and to develop economic diversification. At the same time, the ecological balance has to be carefully preserved. While uncontrolled planting on the limited farmland is to be avoided, the peasants are encouraged to engage in household crop farming and animal breeding. Support is also given to the specialized (priority) households in the countryside for them to do their part in readjusting the pattern of agricultural production. Through various efforts, we have further tapped the potential of natural and labor resources, promoted agricultural production intensively and extensively, and thus guaranteed the sustained progress of crop farming as well as the all-round development of forestry, animal husbandry, sideline production, and fishery. We have thus been able to bring about a sustained harmony in the proportionate relationships among agriculture, forestry, animal husbandry, sideline production and fishery. As to the speed of development, based on constant 1970 prices, the output value of forestry, animal husbandry, sideline production and fishery reached 71.76 billion yuan in 1982, an increase of 47.02 billion, 52.6 percent, over 1978 and that of crop farming in the same year reached 121.84 billion yuan, an increase of 98.86 billion yuan, 24.3 percent, over 1978. Development was faster in forestry, animal husbandry, sideline production and fishery than in crop farming. In output value, also based on the constant 1970 prices, the proportion of output value of forestry, animal husbandry, sideline production and fishery in the GVAO rose from 32.2 percent in 1978 to 36.9 percent in 1982, while that of crop farming dropped from 67.8 percent to 63.1 percent in the same period. In the same year, the output value of forestry, animal husbandry, sideline production and fishery amounted

to 21.6 percent of the GVAO, a slight increase from the 20.5 percent of 1978.

The output value of crop farming accounts for a fairly high proportion of the GVAO. In the internal structure of crop farming, the proportionate relationship between grain and cash crops has a decisive effect on the entire pattern of agricultural production. In 1982, in readjusting the internal structure of crop farming, all localities bore in mind the need for a quantitative increase in grain output and the tendency of a decreasing grain acreage, and requested that all farmland, which was suitable for grain, be used for grain cultivation; that grain be given priority in the farmland that is suitable for both grain and other crops, and that efforts be made to keep the grain acreage stable. The total area sown to grain crops in 1982 was 1,700,930,000 mu in 1982, 78.4 percent of the total area of 2,170,310,000 mu sown to all agricultural crops, and in the same year, the area sown to cash crops was 281,900,000 mu, 13 percent of the total sown acreage. The former phenomenon of allowing grain to squeeze out other crops has been basically changed. On a national scale, the composition of area sown to grain and cash crops is now becoming fairly rational. On the basis of a rotational arrangement for the use of crop-farming areas, we must proceed from realities and adopt various effective measures to change the phenomenon of extensive sowing with low yields by practicing intensive farming, to maintain a continued increase in the output of high-yield plots, to transform the plots with medium and low yields selectively, and to achieve an all-round increase in per-mu output so that there will be fairly rapid developments for both grain and cash crops. In 1982, the gross grain output reached 706.86 billion jin, a 16 percent increase over 1978, with an average increase of 24.33 billion jin each year for 4 consecutive years. This is a remarkable increase from the average rate of 10.84 billion jin each year from 1953 to 1978. While the total grain output was steadily increasing, cash crops developed even more rapidly. In 1982, the total national output was 71.97 million dan for cotton, 236.34 million dan for plant oil, and 871.88 million dan for sugar, 66 percent, 126.5 percent and 83 percent higher, respectively, than in 1978. These rates of increase were markedly faster than the rate for grain output. With the exception of jute and ambari hemp which registered slight drops because of restricted output, the total output of other cash crops including tea, cocoons, cured tobacco and fruits all increased by a wide margin.

The value of forestry in agriculture is expressed not only in its output value, but also, more important still, in the forest cover provided. After several years' effort to keep a good natural environment for the all-round development of agriculture and for the people's living conditions, and to alleviate gradually the effects of a serious timber shortage, the State Council proclaimed in 1982 the rules for a national drive to plant trees. It also issued an urgent directive to stop indiscriminate felling, which had become an unhealthy trend in some areas. People at all levels throughout the country continued to enrich the forests by planting trees and raising their survival rate. The Ministry of Forestry also worked out concrete plans to confirm the right to use mountains and forests, demarcate private plots in hilly land, and set up the system of responsibility for forestry production. In 1982, 67,434,000 mu of land in the country was covered with trees. With

the addition of 197,265,000 mu afforested in the previous 3 years, the grand total of afforested areas came to 264,705,000 mu in 4 years, and the survival rate of trees was markedly raised. In the course of afforestation, both long- and short-range economic benefits were taken into consideration. While building and managing timber forests, they also strengthened economic forests and firewood forests to help increase the output of forest products and the peasants' income and to alleviate the shortage of firewood for peasants.

Animal husbandry was one of the agricultural branches which developed fairly rapidly in the past several years. Based on the constant 1970 prices, the output value of animal husbandry in the country reached 28.37 billion yuan, a 47 percent increase over the 19.3 billion yuan of 1978, at the average rate of 10.1 percent each year. This increase was faster than the GVAO in the same period, which increased at an average rate of 7.5 percent each year. The proportion of livestock output value in the GVAO was also increased from 13.2 percent in 1978 to 14.6 percent in 1982. The rapid development of animal husbandry which accelerated the harmonious proportionate relationships among agriculture, forestry, animal husbandry, sideline production, and fishery was the result of a readjustment of the internal animal husbandry structure. This readjustment was carried out in 1982 in two different ways: First, readjustment of the proportionate relationship between pigs and herbivorous animals. All localities paid attention to the use of grassland resources in developing herbivorous animals and in raising their ratio. The total number of large animals increased from 93.89 million head in 1978 to 101,127,000 head in 1982, with increases in the ratios of cows and sheep. Along with the continued increase in meat output, there were also increases in the output of cow milk, goat milk, cowhide, wool, and other herbivorous animal products in varying degrees. Second, readjustment of the proportionate relationship between the number of pigs in and out of inventory. In 1982, although the number of pigs in inventory dropped from 301,285,000 head in 1978 down to 300,780,000 head, the number of pigs removed from inventory increased from 161,095,000 head to 200,630,000 head. The rate of their removal from inventory rose from 55 to 68.3 percent, and the total pork output increased from 15.78 billion jin to 25.44 billion jin. The former practice of one-sidedly stressing the yearend number of pigs in inventory and neglecting the maturity rate and dressing percentage has been changed. Some areas have even begun to popularize the breeding of pigs of the lean-meat type to increase their ratio in meeting the social demand.

The internal structure of fishery was readjusted by accelerating the development of freshwater fishery while continuing to develop seawater fishery. Full use was made of the ponds, lakes, reservoirs, rivers, and paddy fields for fish breeding. Many localities have begun to shift the focus of their work to freshwater aquaculture, and many effective measures have been introduced in the form of policies and technologies to expand the area of freshwater aquaculture and to increase its output. In sea fishery, the restriction of off-shore fishing along with the development of sea aquaculture and outer-sea fishing have helped preserve coastal resources. In 1982, although the output of seawater products remained at the same level (3.6 million tons) as in 1978, because of the protection of coastal resources, the output of freshwater products was increased from 1.06 million tons to 1.56 million tons. Our

total aquatic output in 1982 exceeded that of 1978 by 500,000 tons, a 10.7 percent increase. This was the first time that the annual output, after fluctuating around 4 million tons for many years, finally rose above the 5 million-ton level and up to 5.16 million tons. The ratio between seawater and freshwater products has also changed: the former dropping from 77.3 percent to 69.8 percent; the latter rising from 22.7 percent to 30.2 percent. The main factor in the rapid development in freshwater fishery was the large increase in the output of artificial breeding--from 760,000 tons to 1,207,000 tons, a 58.8 percent increase in 4 years at an average rate of 12.3 percent each year. The proportion of freshwater aquacultural products in the total output of aquatic products also rose from 16.3 percent to 23.4 percent.

The fact that the pattern of agricultural production is gradually becoming rational can be seen not only from the proportionate relationships among agriculture, forestry, animal husbandry, sideline production, and fishery and within each branch, but also from the following:

- A. Accelerated development of the entire agricultural sector, thus ushering China's agriculture into a new stage of development. From 1979 to 1982, the GNVAO was increased by 33.4 percent at an average rate of 7.5 percent each year. This was obviously higher than the average increase rate of 3.2 percent each year in 1952-1978.
- B. An all-round increase in agricultural output and an increase in the per capita amount of major agricultural products (aquatic products excepted). In 1982, compared with 1978, the national population had increased from 958.09 million to 1,011,170,000. The per capita amount of grain then increased from 637 jin to 699 jin, for cotton and plant oil, the figures increased from 4.54 jin and 10.91 jin to 7.14 jin and 23.45 jin, respectively, and for pork, beef, and mutton, they increased from 17.9 jin to 26.8 jin. For our textile industry, the importation of cotton as a raw material is now basically unnecessary, while plant oil is now a net export instead of a net import. Pork has long been liberally supplied in most large cities and townships, while the supply of poultry, eggs, milk, fruits, and vegetables has also markedly improved.
- C. The change from natural economy in the countryside as an impetus to the change from self-sufficient and semi-self-sufficient production to large-scale commodity production. The proportion of purchases of agricultural sideline products by the society in the GVAO (namely, the commodity rate of agricultural sideline products) has been raised above that of 1978.
- D. The reform in the entire rural economic structure which has enabled more and more members of the rural work force to leave the grain fields for other work. In 1982, about 100 million ablebodied persons in the agricultural population had left grain farming to engage in animal breeding, processing, cash-crop farming, and selling agricultural sideline products. Of this number, about 30 million were engaged in commodity production, using agricultural sideline products as raw materials; about some 17.6 million households became specialized (priority) households engaged in animal breeding and other trades; and 1.27 million households were engaged in individual

commercial undertakings. Individual commune members have purchased 500,000 tractors and joined the ranks of farm-machine and transportation workers. There were also large numbers of ablebodied persons in the countryside joining the service trade and offering services before and after the production process. This is the beginning of the end for the long practice of using the countryside only for producing raw materials, while a new rural economic structure characterized by the comprehensive development of agriculture, industry, and commerce is now emerging.

Although great achievements have been made in setting up a rational pattern of agricultural production, there is still a wide gap between the rational utilization of agricultural resources and the diversified demands of society. First, the output value of forestry, animal husbandry, sideline production, and fishery has not yet reached the level it should, while huge tracts of grassland, water surface and mountainous areas have not been fully utilized. Second, in 1982, the proportion of grain-farming area in the total area sown to agricultural crops was the lowest on record, while that of cash crops was the highest. In some areas, the grain-farming area still tends to diminish, and some cash crops (such as cured tobacco, rapeseed) are being developed blindly, because of price and other factors. The output of these crops is now excessive to market demand or is increasing the state's financial subsidies. To ensure that the demand for grain is met, we must stabilize the grain-growing area. Third, our forest cover is still very small, the development of herbivorous animals and pigs of the lean-meat type is still far from adequate for social needs, while large-scale aquaculture is only beginning. Therefore, in the future, painstaking efforts are still needed in many fields before we can set up a rational pattern of agricultural production that is consistent with the rational use of agricultural resources and able to fully meet the society's diversified needs.

Strengthen Land Management, Cherish Every Inch of Land

Land is the basic means of production and is necessary for the lives and production activities of mankind. Marx not only regarded labor and land as the sources of all wealth, but also quoted William Petty's words "labor is the father and land is the mother of wealth," with the addition that "land is the condition for existence and reproduction which has been passed on from generation to generation, and which mankind cannot willingly abandon." Our party and state have always attached great importance to the question of land. Since the 3d Plenum of the 11th CPC Central Committee in particular, the leading comrades of the central authorities have repeatedly pointed out: "We must cherish and rationally use every inch of land. This should be our national policy." The State Council has also issued many urgent notices forbidding the encroachment of housing on farmland. In February and May 1982, it separately issued the "Regulations on Control of Land for Building Houses in Villages and Townships" and "Regulations on the Requisition of Land for National Construction." In the reformed structure of the State Council, a Land Administration Bureau was created in the Ministry of Agriculture, Animal Husbandry, and Fishery, to be in charge of land throughout the country.

Last year, thanks to the great concern of the party Central Committee and the State Council for land administration, all localities carried out this work with varying degrees of success.

First, an extensive publicity and education campaign. In Zhejiang, Shandong, Shanxi, Liaoning, and Jilin, this campaign was launched on an extensive scale with the use of actual figures for comparison and in combination with the publicity campaign on family planning and population control. In Zhoushan Prefecture, Zhejiang, studies were conducted on the relationships between land and population, between land and grain, and between the reduction in farmland area and the requirements of the four modernizations and agricultural development, so that the broad masses of cadres and people could clearly understand that the per capita farmland in Zhoushan had been reduced from 0.93 mu to 0.38 mu, and that although the per-mu grain output had increased 2.5-fold, the total grain output had increased only 1.5-fold in the past 30 years. The obvious reason for this discrepancy is that the farmland area had been greatly reduced. From 1979 to 1981, the farmland was reduced by an average of nearly 6,000 mu each year. If the reduction continues at the same rate, there will be no farmland in Zhoushan in 57 years. These calculations set right the people's way of thinking and attracted the attention of cadres and people to the urgent task of strengthening land administration. The glory of cherishing land and the disgrace of wasting it soon became a social mood which enhanced people's eagerness to implement the principles, policies, and laws of land administration.

Second, a strengthened legal system and land administration by law. Since the State Council's promulgation of the two "Regulations," the provincial people's congresses and the people's provincial governments of Heilongjiang, Zhejiang, Guangxi, Liaoning, Shanxi, Sichuan, Shaanxi, and Hebei have worked out their local land statutes and the detailed methods of their enforcement in light of local realities, so that there would be laws to abide by. At the same time, the indiscriminate use, unauthorized lease and illegal land transactions and other acts of law violation were verified and dealt with. After cleaning up these cases, and in accordance with the relevant stipulations in the party policies and local statutes, stern actions were taken in the way of confiscation, demolition [of structures], or fines. These measures not only checked the indiscriminate use of farmland, but also rectified the party's workstyle and improved the social conduct.

Third, establishment of land administration agencies as an organizational backing for this work. In Heilongjiang, Jilin, Liaoning, Zhejiang, Shandong, Shanxi, Ningxia, Guizhou, Hubei, Jiangxi, Shaanxi, and Shanghai, the agricultural departments have established land administration agencies with duly invested authorities. Heilongjiang Province, in particular, not only strengthened the prefectural, municipal, and county land administration bureaus (or sections) but also formally appointed land administrators through the people's county government for the villages and townships. There are now in the province 1,620 full-time land administration cadres and 14,437 part-time land administrators. Thus, for the work of land administration, there are responsible persons at every level to ensure that the task is completed. The province as a whole has achieved outstanding success in the economized and

rational use of land. In all the city suburbs of the province, the area of land requisitioned for capital construction was reduced in 1982 from 380,000 mu in 1978 to 200,000 mu, which was more than 50 percent below the 1981 figure [all figures as published]. The land used for rural housing was also reduced by a wide margin. According to the statistics of 47 cities and counties in 1982, more than 50,000 households chose vacant spaces in the villages to build their houses, thus saving more than 41,000 mu of farmland.

Fourth, improved workstyle and more active leadership. The work of land administration touches on a wide range of policy issues. Therefore, the personal attendance of leaders is necessary for the settlement of many important matters. The most valuable experience in the land administration of Heilongjiang which now occupies the top rank in the country, is that the leaders of the provincial party committee and the provincial government were ahead of others in recognizing the land problem. They were also farsighted, determined, and firm in action, and personally involved in the work in order to provide more active leadership. For example, the leading comrades of the provincial party committee personally presided over the meetings of the standing committee to conduct special studies concerning more than 10 "long-standing, large-scale and difficult" land disputes and then satisfactorily closed these protracted cases. Their action had a strong impact on the work of land administration throughout the province.

Fifth, vocational and technical training. Land administration is a new task of a highly technical nature. To meet the requirements of such work, the Land Administration Bureau of the Ministry of Agriculture, Animal Husbandry, and Fishery has opened a semester of land administration classes and also entrusted to Huazhong Agricultural College the job of holding classes on land planning and land survey. More than 90 persons were trained and later returned to their own units to serve as backbone elements in land administration.

Animal Husbandry

Vigorously Develop Animal Husbandry in Farming Areas

China's agricultural regions consist of more than 1 billion mu of grassy mountains and grassy slopes, of which some 600 million mu are spread out in 13 provinces, municipalities, and autonomous regions in the south. Most of them are located in the tropical and subtropical zones which have abundant rainfall, spacious water surfaces, and grassy mountains. In addition to the many types of fodders grown in water, there are many others obtained from agricultural sideline products, such as cottonseed cakes, vegetableseed cakes, chaff, crushed rice, rice stalks, and duckweeds. If the grassy mountains and grassy slopes are carefully managed and used, 1 mu of meadow can produce the same amount of fodder as produced from 3 mu of grassland, and our livestock output will be vastly different.

In the past several years, all localities have conscientiously implemented the party principles and policies adopted after the 3d Plenum of the 11th CPC Central Committee. By carefully attending to the production of pigs and the following jobs, they have achieved initial success in accelerating the development of animal husbandry.

A. Implementing and strengthening the system of responsibility for cattle feeding and management. In some localities, the system of responsibility for feeding and managing large animals was not implemented along with the strengthening of the system of responsibility for agricultural production. As a result, the animals were underfed and overworked, and many of them died of hunger and exhaustion. To resolve the contradiction between feeding them and putting them to work, and between putting them to work and breeding them, many localities have conducted investigations and study, summed up their experiences, and gradually carried out and improved the system of responsibility for cattle feeding and management. In May 1982, the Sichuan Provincial Party Committee called on the leadership at various levels to step up their work in implementing and strengthening this system. The teams which had already adopted the system of all-round responsibility in Zhoukou Prefecture, Henan, set reasonable prices for the large animals which they turned over to individual households for feeding on the condition that the value of these animals had to be increased. The people were satisfied with this arrangement. In the first half of 1982, 99.4 percent of those production teams, which had adopted the all-round responsibility system in agriculture, signed contracts with the households for raising more than 850,000 head of cattle, which accounted for 99.3 percent of the entire livestock herd. Through feeding and breeding, and with the addition of a small number brought in from other places, the number of large animals in the prefecture in 1982 increased by more than 330,000 head over 1979, a 63.1 percent increase, and in the first half of 1982, the number was also 19.1 percent more than in the same period of 1981.

Most of the teams which practiced the system of contracting by specialization and paying according to output upheld the principle of collective animal raising and the system of three-in-one combination of feeding, using, and breeding according to local conditions. In other words, there would be special personnel or contracted groups in charge of feeding and putting the animals to work, with clear-cut rewards and punishments. The enforcement of this system yielded fairly good results.

B. Construction in grassy mountains and grassy slopes. Of the 600 million and more mu of grassy mountains and grassy slopes, approximately 400 million mu which can be used have been left unused for a long time. In the past several years, many localities have learned something new in transforming the natural grassland and sowing fine forage grass seeds. The Nanshan demonstrational ground of Chengbu County, Hunan Province, is located in a mountainous area 1,700 m above sea level and with an annual rainfall of about 2,000 mm. In more than 2 years, 8,400 mu of natural grassland was enclosed and sown with mixed fine strains, mostly perennial rye-grass and trifolium. The result was a per-mu output of 6,000 jin of all-season and ever-fresh forage grasses, and the spectacle of 5 months of withered grasses each year came to an end. There are now 500 head of dairy cattle and beef cattle, and through scientific methods of rotation, 15 mu of pasture will be sufficient to raise 1 head of beef (or dairy) cattle. This marked a breakthrough for artificial pastures with mixed sowing over large areas in southern China. A natural grassland, originally belonging to a collective in Weining County, Guizhou, was jointly operated by the state and a commune. The state supplied funds

for aerial sowing, for seeds and for the enclosure, while the teams supplied labor. In 2 years, 30,000 mu was sown by airplane and the proceeds from a portion of the fattened herd were divided in these proportions: 50 percent for the production teams, 30 percent for the commune, and 20 percent for the county. The state and the locality invested an average of 13 yuan for each mu, and it was anticipated that the investment could be completely recovered in 3 to 5 years, while the commune members could receive 20 yuan each. The people then became more and more enthusiastic in growing forage grasses and raising animals. In 1979, the pastures of New Zealand totaled some 200 million mu and in 1 year, they supplied 1 million tons of beef and mutton, 6.3 million tons of fresh milk, and 320,000 tons of wool. If we can manage our 400 million mu of grassy mountains and grassy slopes efficiently, our output will double that of New Zealand.

C. Four systems of building a fodder industry, popularizing fine breeds, preventing pests, and offering technical services. According to incomplete statistics of Jiangsu, Hunan, Sichuan, and six other provinces and municipalities in the past several years, there were as many as 1,800 fodder-processing factories run by communes and production brigades, with an annual output of more than 1.1 million tons. In Suzhou Prefecture, Jiangsu, compound feeds were used in pig raising. With strengthened scientific management in feeding, the feeding period in 1981, compared with 1975, was reduced by 60 days, the rate of daily weight increase was raised by 61.5 percent, and the maturity rate reached 122 percent. Shanghai popularized the use of compound feed and in 1980, compared with 1978, the remuneration from pig feeds was raised by 10 to 15 percent, and the fattening period was shortened by 2 to 3 months.

Because of stronger measures being taken in reforming animal and fowl breeds, the number of sheep with fine and medium wool and sheep of improved breeds was increased to more than 37 million, and the total amount of fine, medium, and improved wool accounted for more than two-thirds of the total wool output. The number of improved cows was close to 2 million head, and the number of milk goats exceeded 2 million. In some localities, pigs of improved breeds were fairly common and the popularization of improved breeds of domestic fowls is fairly rapid. There are more than 1,000 state-run stud farms, more than 530 state-run mating stations, more than 30 frozen-sperm stations, and a number of liquid nitrogen stations in various provinces, prefectures, and counties. In the base counties, a system of breeding with frozen sperm has been initially formed as a foundation for the popularization of artificial insemination.

People welcome the system of immunization of fowls and animals under contracts. The veterinary department of Laiwu County, Shandong, signed contracts with the chicken-raising households for the immunization of 13,941 chickens belonging to 13 brigades. The contracts stipulated a fee of 0.02 yuan per chicken and a compensation of 2 yuan for each chicken dying of chicken pest or cholera. After the signing of contracts, the veterinary department injected the required serum and checked up on the possibility of pestilence. The people found this arrangement satisfactory.

D. Development of specialized (priority) households in raising fowls and cattle. While developing the raising of animals by the state, the collective and the individuals in the past several years, active guidance, and support were also given to the specialized (priority) households in order to blaze a new trail for the specialization, commercialization, and socialization of animal husbandry. This is an important way to solve the problem of commodity supplies of animal products in the large and medium cities. It has the advantages of less investment, lower production cost, higher commodity rate and greater benefits, and can be developed in either agricultural or herding areas. According to incomplete statistics of Shandong, Heilongjiang, and 18 other provinces, municipalities, and autonomous regions in the second half of 1982, there were more than 2.3 million specialized or priority households engaged in raising 10.09 million head of cattle, 58.15 million fowls, and 12.18 million rabbits. The sphere of specialized household operation has expanded to the mating, breeding, and hatching of animals and fowls, supplying materials, purchasing, processing and many other specialized trades, and are continuing to develop in the direction of economic integration of various forms, and the formation of zones, thus gradually forming a cooperative economy in animal husbandry on the basis of voluntary participation. While training demonstrational specialized households, the leadership at various levels are also setting up contact points to sum up new experiences and to solve new problems so as to encourage the millions upon millions of households to develop fowl and cattle raising.

Before- and After-Production Services, Specialization and Socialization of Animal Husbandry

Our animal husbandry is now developing from self-sufficient or semi-self-sufficient production to commodity production, and from traditional to modern animal husbandry. Along with the development of commercialization, it is only natural that animal husbandry tends to be specialized and socialized. The speed of specialization and socialization is again determined by the services actually rendered before and after the production process. The better the service quality, the more enriched will be the substance of socialization which will in turn provide a strong impetus to specialization. They all are mutually supplementary.

At present and for some time to come, households will be the main source of fowl and cattle products. Households specializing in raising various types of fowls and cattle are now developing vigorously, and in only 1 year, the number of specialized (priority) households was increased from some 2 million to about 4 million, accounting for 2 percent (and more than 10 percent in some regions) of the total number of peasant households in the country. This new situation has brought with it a series of new problems, such as where to obtain eggs for hatching fine breeds of egg-laying or meat-producing chickens, how to prevent pestilence through immunization, how to strengthen scientific feeding and management, and how to apply science and technology on a mass scale following the increase in the numbers of fowls and animals. Furthermore, because of the continued development in raising chickens, rabbits, and milk cows, the problem of marketing may also dampen the enthusiasm of the producers. To solve these problems, we must improve the technical and economic services before and after the production process.

The implementation of various forms of the system of output-related responsibility system and some specific measures supporting the development of specialized households after the 3d Plenum of the 11th CPC Central Committee have brought great changes in animal husbandry. The situation is now excellent, and 1982 was a year of continued development.

1. An all-round increase in the output of animal products. At the end of 1982, compared with the previous year, the total output of pork, beef, and mutton reached 27.02 billion jin, an increase of 1.8 billion jin at the rate of 7.1 percent; the total output of cow milk and goat milk reached 3.92 billion jin, an increase of 820 million jin at the rate of 25.4 percent; the output of wool exceeded 400 million jin, an increase of 25.54 million jin at the rate of 6.3 percent; the output of eggs reached 5.62 billion jin, and the amount of fresh egg procurement increased by 5.3 percent; and honey output reached 271.94 million jin, a 23.2 percent increase.

2. Increase in the number of pigs and large animals. Since 1979, the number of pigs in inventory throughout the country continued to drop until 1982. Then it began to rise to 300,783,000 head, an increase of 7.08 million head over the previous year at the rate of 2.4 percent; and 200,627,000 head, 68.3 percent of the total number were removed from inventory, exceeding the number in 1981 by 5.68 million head. The maturity rate was increased by 4.5 percent. In 1982, the number of large animals exceeded 100 million and reached 101,127,000, a 3.6 percent increase over the previous year. It was the year of the most rapid development in more than 30 years. The number of milk cows of fine breeds or improved breeds reached 817,000 head after a 17-percent increase.

3. New developments among the specialized (priority) households in fowl and cattle raising, along with the appearance of new economic integration on a voluntary basis.

The development in animal husbandry output, though great, has not been even in different localities, as can be seen particularly from the shortage of fresh milk, eggs, and lean meat as against demand and the inadequate supply of skins and furs as raw materials for high-grade garments. This calls for prolonged efforts on our part to solve these problems step-by-step. To basically solve or to greatly alleviate the key problems of the supply of milk, poultry, and eggs to the large and medium cities within 5 years, concerted efforts in many quarters are necessary for finding a new way to offer systematic services before and after the production process. In offering such services (including the service during this process), the main aspects to be stressed and carefully attended to are as follows:

A. There must be a comprehensive system of services related to fine breeds, fodders, pest prevention, and technology. Fine breeds and fodders are the foundation of fine quality and high output in animal husbandry, and none of them can be lacking. The prevention of pests and disease are the indispensable means to guarantee the healthy growth of animals and to reduce their mortalities and losses, and must be carried out in the process of production and even in transportation and processing. Since 1974, Suzhou Prefecture,

Jiangsu, has set up a system for the utilization of Taihu pigs for producing pure breeds and for cross-breeding with fairly great success. This prefecture carried out a series of capital construction projects and set up systems for breeding, immunization, and management, and at the same time perseveringly conducted scientific experiments and technical training in order to form a dedicated professional animal husbandry contingent. It has also been fairly successful in popularizing the use of compound feeds, and only six counties and cities including Changsu, Wujiang, Kunshan, Taicang, and Shazhou were able to supply 66,000 tons of them in 1982. In the first quarter of 1983, they again produced and supplied 30,500 tons, more than double the amount for the same period in the previous year. There are 8 counties, 224 communes, 1.67 million peasant households, an agricultural population of 6.04 million, and 6.53 million mu of collective farmland in this prefecture. In 1981 and 1982, the number of pigs slaughtered was between 3.5 and 3.6 million, and the maturity rate was 122 percent. Every county has one stud farm for elite Taihu pigs. The prefecture has a constant herd of about 1,200 stud boars and is responsible for the selection of pure breeds for the communes. There are now 184 stud boar farms under the communes with a constant herd of about 6,100 head. They are responsible for increasing the propagation and the supply of sows to the collectives and commune members. To popularize the use of semen from imported fine breeds (such as Subai [5685 4101], Large Yorkshire and Hampshire) for cross-breeding, the method of unified semen supply was adopted. There are 10 prefectoral artificial insemination general and branch stations for domestic cattle, 47 commune artificial insemination stations and 110 semen transfusion stations. The ratio of pure-breed Taihu pigs in the prefecture rose from 30 percent in 1975 to 95 percent. Economic cross-breeding is being carried out on 270,000 sows, and within the entire prefecture, "the sows have become local fine breeds, the boars have become imported fine breeds, and their cross-breeding yields a generation of porkers." Taihu sows give birth to litters of at least 15, while cross-bred porkers increase in weight more quickly. According to investigations, the number of days required to add a gross weight of 100 jin was 181.6 in 1972-1975, with an average increase of 275.3 grams each day. In 1981, only 100.8 days were required and the daily increase was 496.3 grams, an 80-percent increase. Because the survival rate of piglets was high, the daily rate of weight increase was raised, remuneration for fodder was increased, the feeding period was reduced, and production costs were lowered, and the income of the prefecture, based on an annual output of 3.5 million pigs, could be increased by more than 60 million yuan. Hongguang Chicken Farm of Shilibao Commune in Baqiao District, Xian, raised 10,000 hens with the compound feed supplied by Xian Municipal Animal Feeds Co. Because of the shortage of vitamins, trace elements, lysine, methionine, and soil nutrients, and the fact that there were only mixed feeds, some fish meal, carrots (multivitamin), and so forth had to be added. For these expenses alone (not counting the cost of electricity and labor required in making the carrots into paste), Hongguang Chicken Farm had to spend an additional amount of 17,000 yuan a year. Furthermore, because of insufficient soil nutrients and the lack of new techniques, each hen could lay only an average of 130 eggs each year.

In the past 30 years and more, 1,048 animal (fowl) farms, 58,549 veterinary stations at various levels, 760 domestic cattle improvement stations, 124

frozen-sperm stations and 414 pasture work stations were built in the country with a total of 533,000 workers and staff members. There are also 88 veterinary scientific research organs and 84 colleges giving special courses on veterinary medicine and pasture management. Great efforts are being made to popularize the scientific and technical achievements already made, while key projects of scientific research are being set for the solution of difficult problems. There is now a fairly good foundation for the system of breeding egg-laying chickens, and several farms for elite chickens and breeder chickens have been built by the integrated animal husbandry, industrial and commercial enterprises, the state agricultural and livestock farms, and the stud animal (fowl) farms. In 1982, two elite chicken farms--called "Xingza 579" and "Luosi"--in Beijing and Shanghai began their operation. The next step will be the building of farms for chickens of the grandparent and parent generations according to different zones and provinces to prevent duplication in importing and construction and to accelerate the propagation of fine breeds. Animal (fowl) farms for raising pigs, sheep, rabbits, and bees should all be rationally distributed to meet the requirements of fine breed production. In addition, on the premise of unified planning, rational distribution and cooperative division of work to bring the strong points into play, a common effort should be made to guarantee the quality of raw materials and products so as to change the backward appearance as soon as possible.

B. The processing of animal products and the services in the sphere of circulation should be improved. Production determines circulation, and circulation in turn promotes production. At present, China is lagging behind in processing, transportation, storage, and marketing, which are the intermediate links between the production of raw materials and consumption by the broad masses. As a result, such irrational phenomena as overstocking at the place of production, shortage of supply on the market, stockpiling during busy seasons, shortage during slack seasons, raw materials being stockpiled and finished products running out of stock have appeared. All localities and the departments concerned must conduct meticulous investigations and study and do a great deal of organizational work. First, based on the needs of the producers and the market, they must make rational arrangements for the processing and reprocessing of animal products. Processing must be carried out at the place of production wherever possible. If it must be concentrated in the cities or trade centers, then the raw materials or semifinished products for this purpose must be transported to their destinations in large shipments. Some perishable goods, such as fresh milk, fresh eggs and so forth should not be processed on a large scale, and the radius of their collection should not be too long. If the outlets spread out in a network are smaller and more numerous, the comprehensive economic results will be better. Second, the designs and varieties of products should be more diversified, and small food packages convenient for consumers, such as soybean milk powder, honey, cream, yogurt, and food condiments in small packages should be produced as much as possible. Third, some products should be split up into different parts and sold separately to suit the consumers' taste or purchasing power. For example, a chicken can be split up into chicken breasts, chicken thighs, chicken wings, chicken claws, chicken head, and neck, and chicken skeleton. Profits from these sales, though small, can be rapidly accumulated through quick turnover.

C. There must be efficient market information. The principle of the leading role of planned economy and the supplementary role of market regulation embodies a major aspect of the superiority of the socialist system. It was a buyer's market in the past several years. On the basis of investigations and study, we can provide guidance on production with certain foresight. The animal husbandry department must bear the unshirkable responsibility of conducting studies and analysis on supply and demand on the market, although, of course, the statistics and commercial departments should also do their part. They must supply timely information on market conditions to the leading administrative departments at all levels, to the basic-level production units, and to the specialized households and help them make timely readjustments of their product varieties and production scale to avoid blind production which would bring economic losses to the state and themselves.

D. Flexible and diversified forms should be adopted to offer efficient services before and after the production process. Comprehensive service is most welcomed at present. This means the use of veterinary stations as service centers for supplying the specialized (priority) households with fine breeds, compound feeds or concentrated feeds, and guiding them in pest prevention, feeding and management, and practicing the system of output-related responsibility. This method can also help arouse the enthusiasm of all basic-level veterinary personnel in doing their work well. The veterinary station of Wenkou Commune in Tai'an City, Shandong Province, has opened a comprehensive service center consisting of a veterinary clinic, a laboratory, a dispensary, an incubation chamber, a breeding station, a horseshoe group, a fodder-processing group, a rabbit farm, and a chicken farm--altogether nine different units, which are now actively engaged in breeding, birth-delivery, castration, hoof-trimming, fodder-processing, supplying fowls and cattle of fine breeds, immunization, treatment of disease, and many other services. This comprehensive service center has also adopted the system of technical responsibility which helps arouse the enthusiasm of the technicians in study and work. Most of its workers and staff members now have "five capabilities," namely, the capabilities of immunization, medical treatment, castration, feeding and breeding, and have become versatile in animal husbandry. For the people's convenience, they also cooperate with the barefoot veterinary doctors in door-to-door deliveries of medical services, drugs, and support funds.

Livestock insurance is a new service based on the former system of cooperative prevention and treatment. In Changzi County, Shanxi, the veterinary stations at the county and commune levels were reorganized into separate insurance service centers or insurance service stations for fowls and cattle to serve the entire county across commune boundaries. In Sheyang County, Jiangsu, the veterinary department cooperated with the county insurance company in a joint insurance service (or chain insurance service) which not only helped arouse the enthusiasm of the veterinary personnel, but also changed the passiveness of the insurance company in waiting only to pay compensations. The people now have even greater confidence in this company.

In many localities, people have begun to form integrated complexes and cooperative or mutual-aid undertakings on a voluntary basis. Apiculture was fairly well developed in Wujin County of Jiangsu and Cixi County of Zhejiang.

In the past several years, the beekeepers have voluntarily formed integrated complexes for apiculture. Cixi County had 130,000 swarms of bees. In 1982, there were more than 500 such integrated complexes organized by specialized (priority) households. The Gubotian Integrated Aparian Complex of Niujuejian Production Brigade in Jiantang Commune was formed of 145 persons in 65 households. It had 2,012 swarms of bees and produced 260,000 jin of honey, and 2,400 jin of royal jelly in 1982. Each swarm of bees yielded an output value of 198 yuan and each household had a total income of 6,500 yuan. The integrated complex is responsible for the arrangement of routes and sites in apiculture, the movement of bee colonies, technical guidance in production and management, and the marketing of products, all in a unified way. Each household is an accounting unit and responsible for its own profits and losses. Transportation fees, farm rents, and other operating expenses are apportioned according to the number of swarms. Formerly, such cost for each swarm was 84 yuan; now it is reduced to 50 yuan. The technical experts in the integrated complexes now have the opportunity to make good use of their skills, while the centralized management and marketing of bee products ensure that the product quality is up to the standard. In some localities, specialized (priority) households in chicken and rabbit raising have also formed integrated complexes and some of these specialized (priority) households also formed connections with integrated livestock, industrial and commercial, or agricultural, industrial and commercial enterprises. It must be particularly emphasized that these integrated complexes must be formed on a voluntary basis, and not necessarily on any specific form. We must guard against the use of hasty measures which may bring harm.

Specialized households in breeding are mostly old experts returning to their former trade. In the future, we should help them with the supply of fine breeds and frozen sperm, and guide them in learning new science and technology so as to improve the quality of their service.

In offering the services before and after the production process, many localities have adopted the contract system so that the responsibilities and interests of both (or many) parties are confirmed in the form of signed agreements. In technical assistance, consultation service, insurance against pests, procurement, and consignments, the contract system has also produced good results in varying extents. The following should deserve attention and improvement: First, contracts must be signed in good faith, and not just as a formality. Second, as legal persons, all parties are equal with regard to responsibility, rights and interests, and the contract should not be unilaterally binding. Third, the contract must contain as many details as possible to facilitate mutual supervision and execution. Fourth, economic contracts must be protected by law.

At present, China has still to explore in theory and practice on the forms and methods of services before and after production as well as certain theoretical problems. As the degree of specialization and socialization rises, what is suitable today may not be suitable after some time. However, practice, competition, selection of the best, and transformation will bring about perfection and gradually pave the way for China's modernization of animal husbandry.

Promising Future for Combination of Animal Husbandry and Fishery in River Network Regions

The combination of animal husbandry and fishery in river network regions is an effective measure to make rational and full use of natural resources in developing fishery and animal husbandry.

China has spacious river network regions. Near the sea are Liaoning, Hebei, Tianjin, Shandong, Jiangsu, Zhejiang, Fujian, Guangdong, Guangxi, and Taiwan--altogether 10 provinces, municipalities, and autonomous regions--and also Hong Kong and Macao regions. There are another 10 and more provinces, municipalities, and autonomous regions along rivers with many beaches, lakes, ponds, weirs, reservoirs, and lowland producing abundant reeds, aquatic products, and livestock. These are excellent conditions for the combined operation of animal husbandry and fishery. Some localities carrying on this combined operation have increased their output by a very wide margin. According to an analysis, chicken droppings contain 1.63 percent nitrogen, 1.54 percent phosphate, and 0.85 percent potassium, and the droppings of one chicken are enough to produce 1 jin of fish. They can help fish grow fat with tasty meat. The leftover bits and pieces of fish can also be used as chicken feed which solves the problem of protein requirement for the nourishment of chickens. If both fish and chickens are carefully attended to, the ratio between feed and meat can be 2:1. Therefore, for developing either animal husbandry and fishery or improving people's diet, this combined operation is of great significance in the development of our river network regions in the right direction.

Both freshwater and seawater fishery can be carried on in combination with animal husbandry.

In freshwater fishery, the combination of raising fish in ponds and animal husbandry was developed very rapidly. In the Zhujiang delta of Guangdong, all the units with high yields of pond fish are keen about the combination of pisciculture and pig raising, which people called the "combination of head-shaking pigs with tail-wagging fish." Pigsties are built near ponds and pig manure is used to feed fish. The people also said: "If we only raise fish without raising pigs, the water will not be fertile and the fish output will be low. If we only raise pigs without raising fish, it would be hard to avoid losses." According to people's experiences, each mu of pond must be supplemented by three or four pigs in order to achieve high fish output. Zhongshan County has 100,000 mu of fish ponds, with a supplement of more than 300,000 pigs. As a result, this county holds the top rank in the output of pork and fish. In Shunde County, pig manure and chicken droppings are used to feed fish, and with the addition of other measures of propagation, each mu of fish pond increased its output by 43 jin. In Nanzhuang Commune, Nanhai County, an average of 3.2 head of pigs was raised for every mu of fish pond in 1981, and the per-mu output of pond fish was 632 jin. In Jiujiang Commune, 1.6 head of pigs were raised for every mu of fish pond, and the per-mu output of pond fish was only 473 jin, although other feeds were used as supplement.

The combination of water transportation and production of fish and reeds is one of the special features of the combination of freshwater fishery and animal husbandry. Many counties and cities around Hangjia Hu have long navigation routes with high output of fish and shrimp, and on both sides of these routes are luxuriant growths of water weeds (water cabbage) which is fine green fodder for pigs and sheep. Thus, Hangjia Hu has become a commodity base producing pigs and Huyang sheep of fine breeds.

The peasants of the Huzhou area, Zhejiang, have for a long time planted mulberry trees and raised silkworms on the highland and fish in the lowland, and cultivated grain on the plains. They used the surplus mulberry leaves and rice stalks to feed pigs and Huyang sheep, and the manure of these animals and the floating weeds to feed fish. The excreta from fish bring fertility to the pond soil which becomes a fine base fertilizer for rice and mulberry. Thus, a natural ecological system characterized by a beneficial cycle of grain, mulberry, fish, and livestock production is formed to promote an all-round increase in agricultural output. The chronic malady of "high output at high production cost, and increased output without increased income" during the 10 years of internal turmoil was cured. In 1982, the proportion of agricultural production cost in the total income was lowered from 30.7 percent in the previous year to 26.5 percent, and the per capita income of the 770,000 peasants in the Huzhou area reached 378.6 yuan. Weishan Hu between Shandong and Jiangsu has a water surface of 100,000 mu and produces plenty of wild celery, which is good for feeding milk cows, milk sheep, and beef cattle. However, it is left to rot in the lake in large quantities. Now it is collected and sold. The fisherman's income is thus increased by more than 600,000 yuan and more than 8 million jin has been used as fodders of fine quality for cows and sheep. Weishan Hu also produces many pond snails. They too are collected to feed pigs and ducks. People around Nansi He raise ducks and catch fish, and the departments concerned are helping them solve the problem of fry, and opening workshops every spring for hatching ducklings, besides supplying them with eggs for hatching.

China has more than 10,000 reservoirs of various sizes. Following the adoption of the system of responsibility for production, the combination of raising fish in reservoirs and animal husbandry has become increasingly popular. Lingdong reservoir of Lingshan County, Guangxi, has a water surface of 10,000 mu and a capacity of 100 million m^3 . In the past several years, the reservoir administration bureau developed economic diversification with the combination of animal husbandry and fishery as the main task, and has become more than self-sufficient in its administrative expenses. Using the grain produced by the bureau itself and the grain it bought with its water fees as raw materials, it opened a brewery with a liquor output of 90,000 jin each year. The distillers' grains were used to feed pigs and the pig manures were used to feed fish and to plant fruits, thus forming a whole chain of production including crop farming, animal breeding, and material processing which supported one another. In 1982, the reservoir had an income of more than 350,000 yuan from economic diversification.

The combination of sea fishery (here referring to coastal sea fishery) with animal husbandry is a new undertaking in China. Rongcheng County of Shandong

faces Huang Hai in the east and every year, more than 7,000 tons of bits and pieces of fish and shrimp were disposed of as refuse, and large amounts of natural shellfish and algae, including sea pineapple and sea rice-ears [hai gusui 3189 6253 4482] were practically left unused. In the past several years, the county used these bits and pieces out of the water as raw materials for the processing factories run by fishing teams having sufficient funds, or for the processing points run by those teams which were incapable of opening factories. In 1982, the county had 6 fishmeal factories with an output of 600 tons, and 297 processing points with an output of 700 tons of products from dried fish and shrimp, and these products are excellent feeds for fowls and cattle. For many years, the commune and brigade collectives of Ningjin Commune in Rongcheng County lost heavily in pig raising. In the past several years, the teams began to use compound feeds and turned losses into profits. In 1981, the profits amounted to 120,000 yuan, and in 1982, the total income from collective pig raising amounted to 3,296,000 yuan, and every yuan invested had a return of 1.41 yuan, 30 percent more than in the previous year. The compound feed can also be used for chickens and martens.

Responsibility Systems of Grassland Management and Cattle Management Should Be Suitable to Each Other

On the basis of the system of responsibility for livestock production, many localities have in recent years adopted the system of responsibility for expanding grasslands and gained some valuable experience.

Adoption of the responsibility system of "team ownership and household feeding" for cattle in Bairin Right Banner of Nei Monggol fully aroused the enthusiasm of the broad masses of herdsmen in developing animal husbandry. However, since the current methods of grassland management and construction were unsuitable for the new system of responsibility for animal feeding and management, there have been scrambles for grassland causing damage to grass areas and a standstill in expanding grassland. The contradiction between grass and herds became even more acute. Several effective measures were adopted to solve this problem: 1) Dividing the rights to use grasslands among the production teams, herding groups and individual or joint households, and issuing certificates to this effect; 2) Mobilizing the people to expand grass areas on the condition that whoever expanded them would be entitled to the benefits from them. In 1980, four herding households combined to enclose 131 mu of grassland which was sown to both grain and forage grass. In 1 year, they changed from grass-deficit to grass-surplus households, and the per capita income of these four households was increased from 70 yuan to 123 yuan after redeeming a loan of 1,000 yuan. In 1982, 63 groups were formed of 497 households to enclose 32,530 mu of grassland; 3) Adopting the method of "four level management with benefits for all" for the grassland already expanded. Large tracts of grassland were under the unified management of the commune grassland stations, while the rights to use them were divided among the production teams which had to pay certain administration fees. When several production brigades combined to expand a grassland, a specialized team was organized to manage it. All the brigades were entitled to their shares of benefits, but they had to pay administration fees on a per-mu basis. The grassland expanded by individual brigades or teams

was managed by special personnel designated by brigades or teams. The herding groups and commune members receiving the benefits had to pay administration fees. The grassland expanded by groups of households was managed by special persons designated by these households who would receive the benefits.

4) Restoring the practice of changing herding grounds in summer and autumn to preserve the grassland for the next winter and spring.

In Otog Front Banner of Nei Monggol, the system of all-round responsibility was adopted whereby rights to use the grassland were given to the households. The broad masses of herdsmen actively transformed the desert, expanded the grassland, and enclosed and nurtured the grass plots in a way compatible to local conditions. All these measures produced fairly good results. In the banner, a total of 5,976 grass plots were created in an area of 160,000 mu, and 70 percent of the herds had their own grass plots. In 1981, the herdsmen in these grass plots cut and stored a total of 10,705,000 jin of grass, 25 percent of all the stored grass in the whole banner, with an average of 255 jin of dried grass for each household. In 1982, they cut and stored 19,343,000 jin of grass, an increase of 8,633,000 jin over the previous year. The creation of grass plots for herds solved not only the problem of shortage of forage grass and fodders but also the problem of eating fried uncooked rice and vegetables for the herdsmen and increased their income.

In Qilian County of Qinghai Province, along with the adopting of system of responsibility for production in 1980, the rights of using grasslands were given to production teams. The winter and spring grasslands were divided according to the herds along with the division of rights to use them. This division, once determined, will remain for a long time, even though the herdsmen and the number of animals in any herd are changed. This method helped promote the development of animal husbandry. In 1981, the propagation rate of animals, the gross increase rate, the net increase rate, the maturity rate and the commodity rate were all higher than in 1979 by 31 percent, 18.3 percent, 11.4 percent, 6.9 percent, and 4.1 percent, respectively. If all the major animal products produced in 1981 were converted into 13.64 million units, then the average number of units produced per 100 mu of useful grassland was 111, an increase of 48.8 percent over the 74.6 units of 1979, and 1.73-fold higher than the provincial number of 40.6 units.

In Zhaoyuan County, Heilongjiang, the production teams divided the grasslands into grazing areas according to the size of their herds and the capacity of the grassland, and contracted these areas to herdsmen for upkeep and herding. During the herding period, it was stipulated that the large animals must be more than 70 percent fatter while the weight of sheep should be increased by more than 5 jin. At the end of the year, the cattle were checked for the degree of their fattening and if they were up to the required standards, the herdsmen would be rewarded; otherwise, they would be punished. This method not only promoted the improvement and expansion of the grassland, but also developed animal husbandry and increased the income of the collectives and commune members.

For the measurement and expansion of grassy mountains and grassy slopes in the agricultural regions, many localities have adopted responsibility system

forms that are suitable for local conditions and for cattle management as a means of animal husbandry development. In Jiangxijie Commune of Huidong County, Sichuan, most of its grasslands on slopes or in some open spaces in the forests, (the grassy mountains under collective management excepted) were divided among the commune members (averaging 15 mu per household) on the condition that they could grow, cut and store the grass, but could not use them for grazing. In several years, the per-mu output of grass on the grassy slopes increased from some 300 jin to more than 800 jin, and the net number of domestic herbivorous animals was increased by 58 percent. In Shanxi, it was also ruled that a certain area of grassland, grassy mountains and waste slopes should be divided among the commune members for their permanent use.

All these methods are mainly intended to solve the problem of the use of grasslands, to combine their use with their preservation, and to coordinate the system of responsibility for livestock management with the system of responsibility for grassland expansion, preservation, and utilization so that these two systems will work in harmony to prevent any damage from scrambles for grassland. This will raise the grassland utilization rate, alleviate the contradiction between grass and cattle, and promote production in animal husbandry.

In the country as a whole, most localities have not yet practiced these two well-coordinated responsibility systems, and even those localities that have already done so have not yet consolidated them. Some comrades hold that we must first divide the system of sole state ownership of grassland into the systems of ownership by the state and the collectives before the conflict between the two systems can be eliminated. This is a drastic reform on grassland. We must continue to sum up our experiences, carry it out step by step, and then arouse the enthusiasm of the herdsmen to manage, use and expand the grassland well in order to promote the sustained development of animal husbandry.

Contract System To Be Upheld in Pig Procurement

In China, pigs are produced mainly by millions upon millions of households all over the country. Since pigs are a perishable commodity, business transactions over them cannot be simple. Therefore, the party and the government have always attached great importance to the production, supply, and marketing of pigs, and adopted a system of contracts for advanced purchase and the combination of purchase and marketing way back in the early 1950's. Pigs belong to the category of agricultural sideline products that are subject to fixed state purchase (namely, products of the second category), and the state has issued mandatory plans stressing the need for a purchase contract system. The contract sets forth the specific duties and responsibilities of both the procurement units of the commercial sector and the producers. The procurement units plan their purchases according to the contracts in which the amounts and times of delivery are specified, and then make overall arrangements for their transportation, processing, storage, and supply to the market. The peasants are aware of their obligations a year in advance and thus have ample time to plan their farming, breeding, and sideline occupation and ensure that their production and delivery targets are met. Practice has shown the

advantages of the contract system to the state, the collectives and the individuals. It is a good way for the state to promote and guide pig production, to organize rational commodity circulation, to bring about a closer agriculture-commerce relationship, and to ensure the fulfillment of procurement plans. In March 1981, the State Council approved and relayed the "Urgent Report Concerning the Current Situation of Pig Production" submitted by the Ministry of Agriculture, Ministry of Commerce and Ministry of Food, and once again called on all localities to uphold firmly the contract system of pig procurement.

In 1982, all localities had basically adopted or tried out this contract system. They arranged for the contracts to be signed early in the year, to be verified and carried out in the fairly busy season and to be supervised and honored in the really busy season. This method produced fairly good results. In Sichuan, for example, on the basis of state plans and the method of procuring one-half and leaving behind the other half, the cadres and people were educated in the "three considerations" [for the state, the collective, and the individual] and the legal concept. After careful investigation, readjustment, and implementation, contracts were signed in good time and later produced good effects. The state-run food company signed contracts with more than 500,000 production teams, 80.3 percent of all teams throughout the province, with the exception of some border and remote areas, and most of the contracts were to be executed by households. In that year, a total of 19.29 million head of pigs were procured and 98.5 percent of the quota of fixed state purchase was fulfilled. The requirements of the state and the market were met. Other provinces, municipalities, and autonomous regions also practiced the contract system on the basis of an output-related responsibility system and the state's procurement plans were satisfactorily fulfilled.

Based on the experiences of various localities, the following problems should be noted and solved in adopting the contract system:

First, carefully study and implement the state's "Economic Contract Laws" to enhance the understanding of the contract system. The contract for pig procurement is an important lever to bring about a closer economic relationship between agriculture and commerce and is legally binding. In combining the use of economic laws with administrative means for economic administration, the state is "doing away with the old and creating something new," and in the course of practicing the contract system, some people may not fully recognize its importance in developing commodity production and may believe that "signing and not signing contracts make no difference." Thus, the contracts signed in many localities were only the "team leaders' contracts" and "meeting contracts" with no responsibility assumed by the households. Some localities onesidedly stressed "decisionmaking power" and refused to sign any contract. In the commercial departments, some workers had "three fears": 1) They feared that if there were any shortage of pigs, the difference between state-set and market prices would be considerable, in which case, the peasants would not deliver their pigs according to contract, and their procurement duties could not be fulfilled. 2) They feared that if there were too many pigs and transportation facilities were inadequate, it would be

difficult for the pigs to be shipped out. Then they would not be able to make their purchase and would have had to be fined. 3) They feared that if there were a heavy workload and a shortage of hands, they might fail to honor the contracts. That is why purposeful education should be conducted in the legal concept, in "coordinating all activities of the nation like moves on a chessboard," and in the "three considerations" so as to dispel their worries and enhance their understanding before the contract system for pig procurement can be practiced and upheld.

Second, adhere to the system of fixed state purchase and streamline the relationship between plans and contracts. Fixed state purchase of pigs is based on the principle of the leading role of the planned economy and the supplementary role of market regulation. The quotas of fixed state purchase, set every year, are the basis of the contract for the peasant's delivery to the state. In 1982, 25 provinces, municipalities, and autonomous regions in the country practiced the system of fixed state purchases of pigs whereby a base quota had to be set each year for state purchase according to a plan and in light of the local conditions of production and procurement in recent years. If the base quotas were reasonable and the plans were carried out accordingly by the households, the procurement contracts could be easily fulfilled, in which case, the correctness of the plan is confirmed. While improvement in the system of responsibility for production is continuing and forecasting of commodity production and marketing is being widely practiced, commercial departments can sign contracts with production teams for quarterly or monthly procurement, and the work involved can be passed on to the households. The more detailed the contract stipulations, the better effects the contract will produce.

Third, uphold the contract system and carefully handle the relationship between contract execution and market control. Pig production has developed steadily in the past several years. Every year, there were nearly 300 million head in inventory, more than 190 million head removed from inventory, more than 120 million head procured by the state, and 60 to 70 million head slaughtered by the peasants themselves after fulfilling their quota of fixed state procurement. The accomplishment of the complex and heavy task of their purchasing and marketing was the result of cooperation from all quarters under the leadership of the party and the government in strengthening market control. At the end of 1982, the number of pigs in inventory was raised, their fattening period was shortened, their maturity rate, average body weight, and meat output were increased, and the commodity volume was enlarged. Furthermore, the peasants' income was increased, and meat supply in both urban and rural areas was plentiful. The general situation of pig production and marketing was fine. However, some major pig-producing areas still have the problem of "difficulty in selling pigs" which affects the fulfillment of contracts. In some areas where pigs are in short supply, there is a fairly big difference between the state-set price and the market price, and the peasants choose to sell their pigs on the market instead of trying to fulfill the contract. The leadership of the party and the government as well as the departments in charge are paying very close attention to these problems and trying hard to solve them. The People's Provincial Government of Sichuan clearly specified the number of pigs to be procured by the state-owned commercial

units according to the fixed state purchase plan, while the provincial industry and commerce administration, the finance department and the commerce department jointly ruled that if the peasants wanted to sell their pigs after fulfilling the quota of fixed state purchase, they must possess "pig retention certificates," "tax certificates," and "quarantine certificates." At the same time, the commercial department will join the industry and commerce administration department in strengthening market control and in encouraging the peasants to produce and sell according to contracts so that they could fulfill the quota of fixed state purchase, invigorate the market economy and promote pig production.

Fourth, strengthen the contract system on the basis of policies and decrees. In 1982, the contracts for pig procurement were generally signed between the basic-level commercial procurement units and the production teams or specialized (priority) households. Experiences have proved that all the contracts containing clear and detailed provisions concerning the interests, duties, and responsibilities of both parties and subject to checkups and control, are always strictly observed and resolutely fulfilled by both parties. Shaanxi Provincial Food Co. and the industry and commercial administration department, for example, published a standard "contract for pig procurement in Shaanxi Province" which set forth the responsibility of both agriculture and commerce, the fines for contract violations, the notarization fees, and the rules for households to sell their own products after fulfilling the quota of fixed state purchase. This standard contract form produced fairly good effects. Through contracts, Shaanxi Province procured 2.21 million head of pigs, 88 percent of the procurement plan figure in 1982. In Tai'an Prefecture, Shandong, by the end of November 1982, contracts had been signed for the purchase of 410,000 head and 445,000 head were actually delivered and purchased. This measure ensured not only a steady supply to the local market but also the transfer of pigs to other localities.

Fifth, the experiment is a balanced allocation quota among the state-owned commercial departments to facilitate the fulfillment of contracts. In China, developments in the production and marketing of pigs is very uneven in different areas and different seasons, and the contradiction between brisk and slack seasons is quite acute. This calls for the prompt supply of information on production and marketing and fairly accurate planning for allotment quotas, so that production, procurement, transportation, storage, processing, and marketing could all be well coordinated. The goods will then be able to circulate freely and be used to the best advantage, while the fulfillment of contracts can be assured. In 1982, Sichuan, Shandong, Jiangsu, Anhui, Shaanxi, Jilin, and Liaoning tried out the system of contract for allotment quotas in the state sector of commerce, and organized the pig-producing counties to sign legally binding contracts of the same type with the joint meat-processing plants so that a balanced distribution could be smoothly carried out. This not only eliminated the worry of the basic-level procurement units about not being able to send out what they had brought in, but also enabled the processing units to organize their production according to plan. After summing up the experiences of the experiments, we should implement this system step-by-step in order to avoid or minimize the damage to the commodities in circulation, to improve the economic results, and to stimulate the sales and purchases of pigs as well as the development of pig production.

State Farm and Land Reclamation

Uphold the Policy of Readjustment, Develop the Work of State Farm and Land Reclamation

Since the 3d Plenum of the 11th CPC Central Committee, the state farm and land reclamation sector has conscientiously implemented the policy of national economic readjustment, reformed the system of business operation and management, practiced the system of responsibility for financial expenditures and the output-related economic responsibility system, reorganized the leading bodies, and formed integrated agricultural, industrial and commercial enterprises. All these measures have produced remarkable results, and the losses which had accumulated to the amount of 3.2 billion yuan since the 10 years of turmoil were ended.

First, readjustment of the production structure within agriculture. This readjustment brought about a continued rise in agricultural output value in the past 4 years. In 1982, the agricultural output value amounted to 6,636,000,000 yuan, a 27.6 percent increase over 1978, in which the proportion of crop farming dropped while that of forestry, animal husbandry, sideline production and fishery rose. In 1978, the output value of crop farming accounted for 62.26 percent and dropped down to 58 percent in 1982, while that of forestry, animal husbandry, sideline production and fishery rose from 37.74 percent in 1978 to 42 percent in 1982.

Since 1979, we have implemented a series of policies on forestry and energetically promoted forestry production according to local conditions. In 4 years, we afforested an area of 4.37 million mu, equivalent to 71.5 percent of the total area afforested in 30 years after the founding of the People's Republic. The proportion of forestry in the agricultural output value was 13.74 percent in 1978 and rose to 17.69 percent in 1982. At the same time, we readjusted the production structure within animal husbandry by vigorously developing the raising of cows, sheep, and other herbivorous animals while the state, collectives, and individuals developed pig raising. In 1982, the number of cows reached 1,440,800 head, a 10.99 percent increase over 1978, including 254,600 head of milk cows, a 32.25 percent increase over 1978. The total milk output in 1982 was 787 million jin, a 45.2 percent increase over 1978. Tropical crops were also developed. The area planted to rubber in 1982 reached 5.32 million mu, a 16.4 percent increase over 1978, with an output of 138,700 tons, a 45.84 percent increase over 1978. The output of chili, coffee, oil palm, fruits, and tea all registered big increases.

Second, readjustment of the internal distribution of crop farming while striving for increased per-unit output to ensure increased grain output, and a change in the pattern of solely growing grain. In 1982, the total grain output reached 13.66 billion jin, an 8.63 percent increase over 1978, and the per-unit grain output was 272 jin, 5.7 percent over 1978. The proportion of cash-crop area, only 9.4 percent of the total farmland in 1978, was raised to 12 percent in 1982, a 2.6-percent increase. In 1982, the total cotton output was 2,631,000 dan, a 77.41-percent increase over 1978 and the per-unit output was 85 jin, an 18-percent increase over 1978. The total sugar output was 46.2 million dan, an increase of 144.96 percent over 1978.

Third, readjustment of the structures of trades and production, with priority for the development of the food-processing and the light and textile industries which used mainly agricultural and animal products as raw materials. In 1982, there were 15 provinces, municipalities, and autonomous regions whose output value of light, textile, and food industries accounted for more than 50 percent of the industrial output value. The service orientation of the machine-tool industry was also readjusted, while those enterprises whose products were of inferior quality and were unmarketable, and whose consumption was high, were closed, suspended, merged with others or retooled for some other line of product. After the readjustment, the industrial output value in 1982 was increased to 4,983,000,000 yuan, a 41.95 percent increase over 1978. Of the GVAI0 the proportion of industrial output value was 41.2 percent in 1978 and 42.88 percent in 1982.

In the course of readjustment, we selectively carried out technical transformation, and gradually changed from a mainly extensive to a mainly intensive method of production development, with fairly remarkable results. In business operation and management, we adopted the system of economic responsibility with "set quotas, contracted responsibility, and rewards" as the main features, to strengthen quality control and to develop new products along with market surveys. In 1982, more than 235 new designs and varieties were introduced to enrich people's lives and to invigorate the market economy to a certain extent. In the course of industrial readjustment, we gradually formed a processing industrial structure with food industry in the leading position so that after multiple processing, there will be more varieties of the agricultural and animal products and better economic results from repeated increases in their value. For example, the milk produced by a farm affiliated to the Bohai Integrated Agricultural, Industrial and Commercial Enterprise was processed into powdered milk, condensed milk and extract of malt and milk; maize was processed into starch, protein powder, maize plumule, jam, glucose, dextrin, etc. The calves due for elimination were made into shredded dried beef or slices of dried beef, leather shoes, plasma, etc.; and grapes were made into port wine and aerated wine. The original value of these four items as raw materials from agricultural and animal products was only 8.52 million yuan; but after multiple processing, it was increased to 22.79 million yuan, a net increase of 1.8 million yuan in tax for the state, and an increase of 4.15 million yuan in profits.

Fourth, readjustment of the scale and structure of fixed-asset investment. The investment in 1982 was estimated to be 1,032,000,000 yuan, including 746 million yuan for capital construction, a reduction of 10.5 percent below the 854 million yuan of 1978. The investment in 1982 also included 336 million yuan from the state budget, which was 36.6 percent lower than in 1978; 251 million yuan of self-raised funds, a 22.6-percent reduction below 1978; 153 million yuan of bank loans, which was double the amount of 1978; and 286 million yuan from the funds earmarked for renovation and transformation, an increase of 43.72 percent over 1978. After the readjustment, the orientation of investment tended to be rational as shown in the following: 1) The proportion of productive investment dropped and that of nonproductive investment rose. In 1978, investment in nonproductive construction was 18.9 percent and rose to 32 percent in 1982. Housing investment amounted to

12 percent of the total investment in 1978 and 20 percent in 1982. The grand total of floorspace was increased in 4 years to 13,800,600 m². At the end of 1982, the total floorspace reached 70,194,900 m² and the per capita area increased from 5.3 to 6.5 m². The percentage of brick and wooden structures increased from 65 percent to 80 percent. In addition, the area for medical facilities was increased by 360,000 m². The proportion of investment in productive construction dropped from 81.1 percent down to 68.41 percent in 1982. Thus, the irrational proportionate relationship which had existed for a long time between "bone" and "meat" was initially changed. 2) Intellectual investment has received greater attention. In these 4 years, investment in scientific research, culture, education, and public health undertakings amounted to 300 million yuan, 7.5 percent of the total investment, and 4.5 percent higher than in 1978. Scientific research premises were expanded by 110,000 m², and the classrooms of universities, secondary schools and primary schools were increased by a floorspace of 1.4 million m². 3) More major production projects and supplementary projects were developed. In 4 years, 935,200 mu was planted to rubber; 189,300 mu, to tea; and 3,762,800 mu was afforested, all showing marked increases over 1978. At the same time, the length of highways was increased by 3,000 km, and that of telephone lines by 4,000 km. Industrial construction was fairly greatly developed.

Since the state farms firmly adhered to the policy of readjustment in the past 4 years, the economic results of their operations were markedly improved. In 1978, they lost 90 million yuan, and in 1979-1982, made a profit of more than 2 billion yuan, paid 1.5 billion yuan of taxes, and delivered to the state 1.94 billion yuan of profits [figures as published]. In these 4 years, the state's budgeted investment was 1,972,000,000 yuan, being 98.3 percent of the total amount of profits delivered and taxes paid to the state. The profit-tax rate in terms of output value was 2 percent in 1978 and 10.86 percent in 1982, a 443 percent increase. The profit-tax rate in terms of capital was 4.45 percent in 1979 and 7.97 percent in 1982, an increase of 79.1 percent. Thus, with the guaranteed promotion of grain production as a prerequisite, the agricultural reclamation enterprises have achieved initial success in economic diversification.

Economic Integration of State Farms and the Countryside

In the course of a comprehensive development of agriculture, industry, and commerce in the past several years, the state farms have also actively formed economic integration with the countryside and developed useful economic co-operation with rural communes and brigades, households under farming contracts, households contracted for specialized work, and self-employed specialized households. Guangdong, Sichuan, Guizhou, Zhejiang, Henan, Chongqing, Beijing, Tianjin, and Shanghai have all achieved certain success and gained some initial experiences in this respect.

With the farm as a base, the Qijiang branch of an integrated agricultural, industrial, and commercial enterprise in Chongqing, organized 1,850 rural specialized households in 1982 to plant family orchards with a total of 1.2 million citrus trees. The state farm was to organize the processing and marketing of products and returned part of the profits to the households.

This arrangement not only supplemented the supply of raw materials required for the processing industry but also increased the commune members' income. In Shanxi, after its experiments in an integrated agricultural, industrial, and commercial enterprise, Xinding Agricultural and Livestock Farm has helped peasants open 24 collective dairy farms and 60 family dairy farms. The proportion of fresh milk supplied by these dairy farms to the powdered milk processing factory of the state farm rose from 4.8 percent in 1979 to 36 percent in 1982, thus benefiting both the state farm and the peasants. In only 3 years from 1979 to 1981, both the farm and the peasants increased their income by more than 800,000 yuan each. Liming State Farm of Guangdong signed a contract with the nearby Lushou Production Brigade for the joint operation of a 2,000-mu rubber plantation in 1981. In the same year, the production brigade increased its income by 61 percent while the state farm saved 40 percent of its investment. In December 1982, the general state farm and land reclamation bureau of Guangdong Province summed up the experiences of Liming State Farm in its joint operations with the countryside and accordingly worked out the regulations concerning 10 problems, such as in the form of operation, the organization of leadership, the ownership of property, the disposal of products, payment of expenses, distribution of benefits, sources of funds, system of accounting and system of management. It also presented the "Views on Joint Operation of State Farms and the Countryside," to serve as a link between the countryside and the state farm in developing natural rubber and in improving the conditions for the development of a civilian rubber industry.

The following are the main experiences in the economic integration of state farms and the countryside:

1. Preservation of the system of ownership or the organizational affiliation. Integration of state farms and the countryside was formed long ago. However, because of the lack of experience during the "Great Leap Forward," a number of rural production teams were merged under administrative order, resulting in many contradictions and the withdrawal of most of them. This was a mistake. After 1979, in accordance with the spirit of the 3d Plenum of the 11th CPC Central Committee, economic methods were used to integrate state farms and the countryside without changing the system of ownership or the organizational affiliations, and the result was a success. A new way was thus found for close cooperation between two systems of ownership, which spurred on the formation of economic integration in various forms. The vineyard of a state farm in Tianjin cooperated with the countryside for the joint development of a grape base. With investment from the state farm, the area planted to grapes in the countryside reached 2,895 mu in 1982, double the area of 1,451 mu of the state farm planted from 1961 to 1981.
2. Practice of comprehensive agricultural, industrial, and commercial operation. In the past, the relationship between the state farm and the countryside was formed mostly through the supply of fine strains and technology. This cannot be a close economic relationship. The practice of comprehensive agricultural, industrial, and commercial operations has expanded the economic relationship between the state farm and the countryside into the spheres of processing and marketing. In the past, the processing equipment

of some state farms for a long time operated below capacity because of the shortage of raw materials, while production in the nearby rural areas could not develop because of the lack of outlets for their products. After the economic integration in the form of comprehensive agricultural, industrial, and commercial operations, the rural areas had no more worry about the problems in the development of raw materials while the state farm could count on plenty of raw materials for processing. Thus, the two supplement each other by bringing into play their own strong points. A tea plantation in Guizhou engaged in processing scented tea could not get the required flowers. Now these flowers are supplied to the state farm by the nearby peasants and a strong impetus was given to the development of tea production.

3. Adherence to the policy of returning profits. To arouse the enthusiasm of peasants in producing raw materials, we must give them the benefits they deserve. In other words, we must let them share the profits from what has been processed and sold. In Chongqing, 26 state farms formed integration with 2,000 production teams around them. At the very beginning, part of the proceeds from the processed and sold products were returned to the production teams which supplied the raw materials. From 1979 to 1982, the profits returned amounted to 5 million yuan. Some state farms even formed partnership with the peasants in opening processing factories and sales establishments. The profits from processed and sold products were distributed to the peasants according to their shares of capital. This form of integration has the effects of enriching the state, the people, and the enterprises.

Strengthen Financial Management, Improve Economic Results

To improve business operation and management, strengthen economic accounting, and promote production, the agricultural reclamation enterprises were called on to implement five systems and regulations concerning financial management, beginning 1979. These systems and regulations formed the basis of financial work in the state farms. It was clearly stipulated that state farms should be independent economic accounting units, while the production teams should be the accounting units at the basic level. The state farm should take unified charge of financial receipts and payments, bank deposits and loans, the delivery of profits to the state, payment of taxes, receiving fund allocations, and conducting experiments on the "annually revised responsibility system whereby surplus profits are to be retained and shortfalls will not be made up."

In the past 4 years, state farms have conscientiously implemented these five systems of financial management and financial responsibility. They have strengthened their financial organs and employed a full staff, and most state farms and workers were concerned with the production cost, profits, funds, and business results of the enterprises. They also paid attention to the methods of acquiring, accumulating, and spending money, and endeavored to turn losses into profits and to improve management and economic results. In 1979, the losses which had continued for 13 years were stopped and turned into profits. From 1979 to 1982, profits exceeded 2 billion yuan, and in 1982 alone, amounted to more than 700 million yuan, the highest figure in the history of state farms and land reclamation. The number of losing

enterprises was also gradually reduced every year and their proportion dropped from 56 percent in 1978 down to 30 percent of the total number in 1982. In Beijing and Jiangsu, every state farm made profits, and none of the enterprises incurred any loss.

However, not all areas and enterprises had the same success in turning losses into profits, and much can still be done to improve the economic results of agricultural reclamation enterprises. The five systems worked out by the Ministry of Finance and the State Commission of State Farm and Land Reclamation, and the regulations of financial responsibility approved by the State Council are all effective measures for strengthening financial management and improving economic results. Although there is still room for their improvement, and new developments and new problems may be encountered in the course of their implementation, we can sum up our experiences and continue to improve them. On the whole, the situation of agricultural reclamation enterprises in developing production is very good, but we must be soberly aware that their economic results are still poor. Thirty percent of these enterprises are incurring losses, agricultural production is easily affected by the natural elements, and the passive situation of making profits and incurring losses intermittently is not yet ended. Therefore, the agricultural reclamation enterprises have on hand the important task of turning losses into profits, developing production steadily, and improving economic results. The state farm and land reclamation departments at all levels must classify the enterprises under them into different categories; and in dealing with those who are making profits, they should try to discover the weak links, tap the potential and further increase their profits. As to those which are incurring losses, they should strive for a general improvement by providing individual guidance and setting a time limit for these enterprises to improve their performance.

1. Practice economy by cutting down expenses. We should reduce the productive and nonproductive expenses in various fields, and particularly in energy consumption in machinery operation--which accounts for a high proportion of productive expenses and in which breakthroughs can easily be made--in order to lower production costs. The personnel of administrative organs in enterprises cannot be increased at will, and the items or standards of expenditures cannot be increased or raised without valid reason. Operating expenses under the established items must be strictly controlled and no new items can be added to increase expenditures.
2. Streamline financial work in the course of enterprise consolidation. The standards of management are uneven among all agricultural reclamation enterprises and there are problems of unsound financial systems, unrealistic calculations of profits and losses, and laxity of financial discipline. These are among the important causes of poor economic results among these enterprises. We must fully recognize the importance of financial work, streamline it carefully, and strive to raise the standard of financial management considerably so that it may be more effective in promoting production, improving business management, making forecasts and policy decisions, and increasing economic benefits. In strengthening financial and economic disciplines, the enterprise leadership must mobilize the broad masses to work out effective measures to prevent violations of discipline.

3. Strengthen fund control to achieve better results in the use of funds. Funds must be strictly classified according to the requirements of economic readjustment. There should be unified planning, unified arrangement, and appropriate action within the limits of our resources. Capital construction projects must be incorporated into plans. Should there be any surplus under the system of financial responsibility, such surplus must first be appropriated before being used. In the case of deficits, capital construction cannot be undertaken again with self-raised funds. The productive funds arbitrarily used on capital construction must be gradually returned. In the use of loans and foreign funds for capital construction, the feasibility of the project as well as the capability of repayment must be carefully calculated, and rash action must be avoided.

Advisability of Granting Loans for Supporting Agricultural Reclamation Enterprises

Before the 3d Plenum of the 11th CPC Central Committee the agricultural reclamation enterprises had incurred losses for a long time. An important cause of these losses was their reliance on the "allocation system" in the form of state investment which they did not need to repay. The objective financial difficulties of the state preclude the continuance of this form of investment. In 1979, the state's allocation for capital construction in agricultural reclamation was 800 million yuan, which was reduced to 600 million yuan in 1980 and then to 300 million yuan each year in 1981 and 1982. In the future, such investment will gradually be replaced by bank loans. In 1980, the Agricultural Bank began to extend equipment loans which reached 300 million yuan in 1982, equivalent to the amount of state investment in capital construction in the same year. Therefore, besides trying every way to increase their accumulated funds, the agricultural reclamation enterprises have to rely more and more on bank loans as a source of funds. This system of funding has produced good results in tapping potential, carrying out innovation and transformation, practicing comprehensive agricultural, industrial and commercial operations, improving business management, strengthening economic accounting, and developing production among the enterprises.

A. Promoting comprehensive agricultural, industrial, and commercial operation. In the past 2 years, Hunan invested 15 million yuan in agricultural reclamation, including 1.5 million yuan of state investment, 3.4 million yuan of self-raised funds, and 10.1 million yuan of bank loans. The money was used on 11 state farms in the Dongting Hu area for building a sugar cane base and other projects supplementary to sugar production, such as paper-making, fiberboard manufacture, and breweries. In 1982, the area of sugar-cane plantation was increased from the original 75,000 to 150,000 mu, and sugar output was increased from the original 18,000 to 40,000 tons, one-third of the total provincial sugar output. The output of paper made from bagasse was increased from 9,000 to 15,000 tons; fiberboard output was increased from 5,000 to 18,000 tons; and the profit from sales was increased from 7.52 million yuan to 12 million yuan. In 1 more year, the total investment would be recovered.

B. Spurring on the enterprises to tap potential and to carry out innovation, transformation, and renovation of equipment. In the Hezi reclamation area of Xinjiang, for example, a sugar refinery used an equipment loan of 850,000 yuan on 25 projects of technical transformation and equipment renovation and raised the daily output of sugar made of beet roots by 18 percent, so that each sugar cane pressing period could yield 3,540 tons of refined sugar, increase the profits by 940,000 yuan and add 340,000 yuan to the accumulated funds.

C. Developing economic diversification to create more job opportunities. Because of the continued rise in agricultural labor productivity, the reduction of farmland every year, the natural population growth and other factors, there was generally a 20 percent surplus of labor. Giving jobs to the surplus labor and to the workers' sons and daughters was a sharp problem for the state farms. Using equipment loans, the Xinjiang Production and Construction Corps developed more than 300 production projects from 1980 to 1982 and employed nearly 6,000 surplus laborers. In Jiangxi, approximately 5,000 sons and daughters of the workers on the provincial agricultural reclamation enterprises needed jobs each year. With the equipment loans, the enterprise opened some new avenues of production by developing several labor-intensive industries and sideline occupations, thus solving the employment problem to a certain extent. For example, the problem of 300 persons of the mulberry cultivation factory needing jobs was basically solved.

D. Strengthening economic accounting, improving business management, and raising investment returns. In the past, when state investment was used and did not need to be returned, it generally took more than 5 years, and sometimes as long as more than 10 years, to recover the investment. Now the bank loans being used must be repaid on time and with interest. The enterprises must, therefore, carry out careful calculations and practice strict economy in order to reap maximal benefits with minimal investment and speed up the turnover of funds. The gourmet powder factory of a comprehensive mulberry farm of Jiangxi, for example, applied for an equipment loan of 150,000 yuan in early 1982 and built a small sorbic alcohol factory. This factory was put into operation in May and the loan was redeemed in the same year.

The agricultural reclamation enterprises have accumulated some experiences in using equipment loans to develop production in the past several years. First, extensive publicity work must be conducted on the great significance of equipment loans to enhance understanding among workers. Then careful investigations and study must be conducted along with feasibility studies with particular emphasis on the economic results and the orientation and main purpose of the use of loans. In granting equipment loans, Jiangxi Provincial State Farm and Land Reclamation Department and the Agricultural Bank of China firmly upheld four priorities: priority for crop farming and animal breeding; priority for projects requiring less investment but showing quick results and yielding great benefits; priority for the development of processing for agricultural sideline products and of light and textile industries, energy and products in short supply; and priority for the establishment of commodity production bases. Since 1980, the state farms of Jiangxi

have used loans totaling 60 million yuan on more than 300 projects, which increased output value by 80 million yuan, and profits by 12 million yuan. It paid 6 million yuan of taxes, invigorated the economy, and increased the state's tax revenue and the enterprise's accumulated funds. Practice has proved that the extension of loans must be coordinated with the enterprises' efforts to turn losses into profits. Since the enterprises incurring losses are generally engaged in a single line of business, we must help them not only to meet their urgent financial needs, but also to develop industry, sideline production, and economic diversification. Fancaobu State Farm of Xinjiang was a well-known big loser. It produced only three types of medicinal herb, and poor sales brought the loss of some 760,000 yuan for many years. Since 1980, it used 160,000 yuan from loans for technical transformation and for new lines of products, such as glutamin acid and tea made of ginseng and deer antlers. It quickly stopped losses and in 1982, realized a profit of more than 200,000 yuan. At present, since the accumulation capacity and the labor productivity of agricultural reclamation enterprises are low, they should undertake small and medium projects which require less investment and yield quick results. We must be careful in granting loans for large capital construction projects, and consider the enterprises' capacity to redeem loans, lest we only add to their burden and bring losses to them and to the state. The State Farm and Land Reclamation General Bureau of Guangdong and the Agricultural Bank have adopted the principle of investigating, observing and calculating in granting loans, whereby they have to investigate and find out if the loan has been included in some plan and if self-raised funds have been actually raised; to observe and determine the feasibility in light of production conditions, including production techniques; and calculate the productive capacity, and find out if the production cost and the profits are economically rational and if redemption of loans can be ensured. The bank, the financial departments, and the agricultural reclamation departments must thus strictly control the loans for projects so that an overall balance may be worked out and the supply of raw materials and energy, as well as the coordination of production with marketing may be ensured. By this means, they will be able to help enterprises use their loans well and to give stronger support to the projects to be financed.

Agricultural Machinery

Run Agricultural Machinery Service Stations Well

Practice of the system of responsibility for production, mainly in the form of output-related responsibility, in our countryside has brought about urgent needs among the peasants for agricultural machinery. The old methods of plowing, raking, and sowing used by the commune tractor stations are now far from adequate for the division of farm work among the households. Thus, corresponding changes have taken place in the agricultural machinery business. In addition to the small number of units run by the state, the communes or production brigades, and households are now providing this service individually or jointly. At the end of 1982, individual commune members and groups of households owned 990,000 tractors, approximately one-fourth of the national fleet, and this number is still continuing to increase. This form of

business operation has done away with the need for farm machine stations and mechanized farming teams offering services in plowing, raking, and sowing. The peasant households now want to choose and own economic and suitable agricultural machinery, to learn the operation and maintenance of farm machines, and to be supplied with accessories and spare parts. They also want the agricultural machinery control stations and the agricultural machinery stations to provide technical services.

To meet the new situation of production development in the countryside, all localities have proceeded from realities and set up various types of agricultural machinery stations. There are now state-run agricultural machinery service stations (or companies), commune agricultural machinery service stations (or joint state-commune agricultural machinery service stations or companies), brigade agricultural machinery service teams, service stations (or companies) jointly operated by the state, the collective and the individuals, and specialized companies offering only single lines of services, such as drainage and irrigation, plant protection, etc. The farm machine service stations in various localities have been in operation for only a short time; however, their superiority has already been clearly demonstrated because of the correct orientation of their services and the responsibility system adopted for the use and control of agricultural machinery. The superiority is manifested mainly as follows:

A. The mode of their operation can fairly effectively resolve the contradiction between the division of farmwork among households and the centralized operation of farm machines, and also solve the problem of "difficulty in farming" among some households that are short of draft animals. It also promotes agricultural production and economic diversification.

B. As administrative economic entities, the agricultural machinery service stations have changed their way of supplying technical service from the use of purely administrative means to the use of economic methods supplemented by the necessary administrative measures. In business operation, the old methods of plowing, raking, and sowing with tractors have been replaced by the comprehensive services of individual or groups of households with the use of farm machines, and these services have invigorated the economy and increased economic power. In Zhejiang, the number of agricultural machinery service stations has been increased to 1,454, with an output value of 33.02 million yuan, and a profit of 4.5 million yuan in 1982, an increase of 7 and 10 percent, respectively, over 1981. In Henan, there are altogether 475 agricultural machinery service stations (or companies) with a profit of 3.12 million yuan, and no more losses.

C. The control of farm machines, dissemination of technology, maintenance of farm machines and tools, distribution of fuel, supply of accessories, and spare parts, and the popularization of new machines or tools were formerly handled "separately and without coordination." Now they are under unified leadership and unified management with organic coordination for the convenience of people. This benefits production and increases the efficiency of farm machines.

D. The establishment and consolidation of various forms of responsibility system for the use and control of agricultural machinery, the system of job responsibility and the system of contracted responsibility for the agricultural machinery service stations to be run as enterprises have raised the level of their operation and management and increased the economic benefits to be derived from the machines.

E. Through technical services, the agricultural machinery service stations have organized the groups of households and individuals using farm machines to undertake farming or transportation for others. They also guided the households in joining integrated complexes on a voluntary basis, if so desired, so that these economic integrated complexes can expand gradually.

On the whole, the agricultural machinery service stations have not only increased the variety and expanded the scope of their services, achieved good economic results by using farm machines to full advantage, and promoted the reform in the rural economic and labor structures, but also demonstrated their great vitality in opening new avenues for peasants to work their way to wealth.

Running these agricultural machinery service stations well and developing their services constitute important reform in the orientation of their work. As to the way of running them well, we must first understand the guiding thought that the function of these stations, mainly in the form of services, should be closely coordinated with those of the relevant departments in serving the production of agriculture, forestry, animal husbandry, sideline production, and fishery, as well as rural construction and people's livelihood. Like independent enterprises with independent accounting, they assume responsibility for their profits and losses. Therefore, they should be able to offer specialized technical services to the society and be run as enterprises.

The sphere of operation for agricultural machinery service stations is quite large. Within the scope permitted by state policies and provided the supply of raw materials is guaranteed and the products can be easily sold, the equipment and technical resources of these service stations can also be used for processing certain social products. To run these stations well, we must see to it that:

A. They must be managed as enterprises, and there should be a fairly sound system of job responsibility for the use and control of farm machines, a system of economic responsibility, and various rules and regulations for the close combination of the responsibilities, rights, and interests. In their relations with other units, they should uphold the principle of voluntary participation and mutual benefits, adopt the contract system in various forms and fulfill their contractual obligations. A system of economic accounting should be set up for the accurate calculation of production costs.

B. The principle of self-reliance and the practice of economy must be upheld in running the stations. The funds required should be mainly raised by themselves. The personnel must be capable, and the human and material resources must be as comprehensively utilized as possible.

C. Active leadership and support must be provided to the agricultural machinery service stations. Attention must also be paid to their ideological, organizational, and vocational developments so that the growth of these stations will be consistent with the objective of the national modernization program, and the stations will become the centers of rural technical service.

The departments in charge of farm machines in all localities have worked out provisional rules and regulations, and presented their views on the consolidation of agricultural machinery service stations and the system of this service is being steadily improved.

Actively Train Agricultural Mechanization Cadres

To raise the technical and management standards of the agricultural mechanization cadres, and to improve and strengthen the work of leadership and administration over agricultural mechanization, the Agricultural Mechanization Bureau of the Ministry of Agriculture, Animal Husbandry and Fishery has arranged for the leading cadres of the agricultural mechanization system to receive training in the basic technical knowledge of agricultural machinery, and for the dissemination of new knowledge and new technology among the teachers and specialized technicians.

A. Opening training classes and special courses for the training of agricultural mechanization leading cadres. During the two semesters of training in the Agricultural Mechanization Cadres School of the Ministry of Agriculture, Animal Husbandry, and Fishery, and in the Nanjing agricultural mechanization cadres training class, 277 persons--including cadres at the department level in charge of agricultural mechanization in various provinces, municipalities, and autonomous regions, chiefs and deputy chiefs of agricultural mechanization bureaus in various regions, and party and government cadres in charge of agricultural mechanization--were trained. The provinces, municipalities, and autonomous regions have also opened training classes for mechanization at the prefectural and county levels. Some provinces have started a 2-year training program for the basic-level leading cadres of the agricultural machinery system, and enrolled some outstanding young and middle-aged cadres below the age of 40 for systematic training, so that the vocational knowledge of these cadres in the management of agricultural mechanization will be equivalent to that of graduates from secondary vocational schools. By the end of 1982, most of the cadres at the department level of the provincial agricultural machinery (administration) bureau, and the cadres of the county agricultural machinery bureau at the bureau level, had undergone one course of training. This training has heightened their ideology in agricultural mechanization, enhanced their sense of responsibility, and increased their professional knowledge.

B. Training teachers for county agricultural machinery schools. There are more than 7,000 teachers for county agricultural machinery schools in the country. Of this number, 30 percent are up to specialized university standards, 50 percent up to secondary vocational school standards, and 20 percent were originally expert machine operators. Approximately half of the total

number graduated after the "Great Cultural Revolution." Because of the rapid advance of science and technology, the new teachers need to raise their vocational and technical standards, while the old teachers need to update their knowledge. The Agricultural Mechanization Bureau of the Ministry of Agriculture, Animal Husbandry, and Fishery entrusted to the Agricultural Machinery Bureau of Heilongjiang the task of running research classes on combined grain harvesters for teachers. Zhejiang Agricultural University was also entrusted with the task of running teachers training classes on specialized repairs, and a total of 106 teachers in key positions were trained for the county agricultural machinery schools. Many provinces, municipalities, and autonomous regions have also held classes to raise the standards of professional teachers, and some of the provinces selected teachers to be admitted into institutions of higher learning for advanced training or oriented training. Through this training, the teachers have greatly broadened their range of scientific knowledge, raised their theoretical standards and increased their professional competence. In Guangdong, for example, the theoretical standards of 80 percent of the 433 teachers of the county agricultural machinery schools have been raised to those of secondary vocational schools, and their practical performance is equal to that of third- or fourth-grade operators. In Guangxi Autonomous Region, the basic theoretical knowledge of 92 percent of the 598 teachers is up to the standard of university or secondary vocational school standards, and the practical performance of 58 percent of them is equal to that of second- or third-grade operators.

C. Training professional technicians in new knowledge and new technology. In the second half of 1982, the Agricultural Machinery Bureau of the Ministry of Agriculture, Animal Husbandry, and Fishery held lecture classes in the school of the ministry for agriculture mechanization cadres on the analysis of agricultural mechanization and data processing according to zones, and 58 students were trained in these subjects. The Agricultural Mechanization Bureau also entrusted the agricultural machinery bureaus of Jilin and Liaoning with the tasks of holding "research classes on the nursing of paddy rice seedlings in large basins and mechanical transplantation of seedlings," and "research classes on the technology of intensive sowing," respectively, and 100 scientific and technical personnel responsible for the popularization of technology were trained in these classes. Many provinces, municipalities, and autonomous regions have also held training classes for such new technologies as mulching, plant protection, and threshing. These classes have produced very good results in popularizing new technologies for agricultural production.

Start With Energy Conservation in Doing a Good Job of Agricultural Machinery Maintenance

Adoption of the system of responsibility for agricultural production has continued to arouse the enthusiasm of peasants who are now paying attention to the economic results of agricultural machinery maintenance. They want the maintenance service to be convenient, timely, economical, oil-saving, and of fine quality. At the end of 1982, there were 44,678 repair enterprises with 550,000 workers at the county, commune, and production brigade levels in 22 provinces, municipalities, and autonomous regions. These enterprises owned

108,000 sets of metal cutters and forging equipment, 50,000 sets of equipment for repairing old machines, and more than 10,000 sets of testing equipment. In that year, they repaired 300,000 large and medium tractors, of which 49,000 were overhauled; 865,000 small tractors, of which 139,000 were overhauled; 737,000 diesel engines, and 514,500 sets of other farm machines and tools. The annual output value of these repair services reached 510 million yuan. These rural commune and brigade repairs enterprises account for 95.9 percent of all agricultural machinery repair enterprises, while the number of their workers accounts for 50 percent; the number of farm machines repaired by them accounted for 89.3 percent of the total number; and the annual output value of their repair service accounted for 57.9 percent of the whole amount. The repair outlets operated by individual peasants in various localities have also increased in varying degrees.

In 1981, the Agricultural Mechanization Bureau of the Ministry of Agriculture, Animal Husbandry, and Fishery organized the departments concerned to conduct investigations and tests on 28 overhauled tractors of 3 different types--Dongfanghong-75, Tieniu-55, and Dongfanghong-28--in the 3 northeastern provinces. Only a few of them could recover 95 percent of their hauling horsepower and continue to keep the increase in horsepower/hour oil consumption within a 2-percent margin, and most of them consumed oil excessively. For example, the traction power of a Tieniu-55 tractor under practical test was 11.9 horsepower, lower than the required amount by 26 horsepower, and the oil consumption for each horsepower/hour was 542 grams, more than the required amount by 270 grams. Among these 28 tractors, the average drop of traction power was 3.26 hp, a 7.3-percent drop, and the fuel consumption per horsepower was increased by 55.77 grams, 19-percent higher than the allowed amount after overhaul. (Formerly, there was no such requirement for the overhaul of tractors.) To improve the repair quality so that the repaired tractors could give proper performance in power and in economy, it was proposed that the power of motors of the overhauled tractors to be recovered, formerly set at 95 percent, now be increased to 98 percent, so as to guarantee that the traction power of the tractor to be recovered is up to 95 percent, and that the oil consumption should not be more than 2 percent over the required amount. In this way, the state could save a large amount of energy. Let us take the motive power for diesel engines for example. The total motive power of farm machines throughout the country was 226 million hp, including 131 million hp, 58 percent, for diesel engines; and among the diesel engines, the motive power for tractors was 63,275,000 hp, leaving 67,646,000 hp for other diesel engines. At the rate of 50 working days a year, and 8 hours for each day, a saving of 5 grams per horsepower/hour will mean a saving of 260,000 tons of diesel oil in the country, and the oil saved will be equivalent to 4 percent of 6.37 million tons, the total amount of oil supplies in 1982. Because of the present state of farm machine technology, excessive oil fuel consumption and oil leakage are fairly common, thus much can be done in energy conservation.

For energy conservation in agricultural machinery maintenance, the following work should be attended to in the future:

A. The agricultural machinery enterprises and establishments should carefully control excessive oil consumption. The departments concerned have been organized to trial manufacture Model 801 nonbraking dynamometers and experiments are being conducted on a certain scale. After certain improvement and the finalization of design, it will be gradually popularized in the countryside. It is also tentatively planned that during the Seventh 5-Year Plan, all the large regions in the country will gradually set up their "stations for the testing and regulating of farm-machine fuel pumps," which will cooperate with the agricultural machinery departments of various localities in checking and readjusting the fuel-pump test benches of the maintenance enterprises so that they will be up to, or approach, the required standards, and thus solve the problem of excessive fuel consumption in the maintenance of agricultural machinery.

B. Attention should be paid to the trial manufacture of test equipment for the traction horsepower (oil consumption of tractors), to facilitate the work of testing by the agricultural machinery departments and the maintenance enterprises (although this is also related to the quality of the engines and accessories produced), the revision of tractor overhaul techniques and economic indices, and the recovery of the motive force and the economic value of repaired tractors.

C. The departments concerned should be organized to conduct research and experiments in preventing and stopping leakage. The departments should also trial manufacture the equipment for cleaning and washing farm machines together with the selection of detergents for metals which will gradually replace the fuel now being used in increasing quantities for cleaning and washing during maintenance work.

D. The work of disassembling and reassembling farm machines and evaluation of tools for checking and repairing and of the equipment for testing, so as to improve gradually the standard procedures for the maintenance of various major farm machines and tools. The Model NJ-1 beam axle readjuster, the Dongfanghong-75 dolly to be used under the chassis, and the tools for disassembling and reassembling walking tractors which have all been trial manufactured, should be finalized and popularized.

E. Plans should be made for TV and broadcasting programs to disseminate the knowledge of farm machine preservation and maintenance. Through these jobs, we should strive gradually to improve the quality of our agricultural machinery maintenance work as a logistic support for energy conservation, and to produce better economic results by making full use of farm machines in agricultural production.

(By the Repairs Department of Agricultural Mechanization Bureau, Ministry of Agriculture, Animal Husbandry, and Fishery)

Produce Small Farm Machines of Good Quality and Low Prices

To meet the peasants' needs for small farm machines, the scientific research, production, and supply of these machines and the related technical services have been listed as priorities in the work of agricultural machinery in 1982. That was why during that year, the output of small mechanized and semimechanized farm implements and tools were greatly increased. Their quality was also improved and many new varieties were added.

The product mix of farm machines was readjusted in the past several years, and scientific research in small farm machines was stepped up. By the end of 1982, 514 types of small farm machines had been successfully trial manufactured and in regular production. Among them were 14 types of walking tractors, 11 types of small diesel engines, 319 types of farm machines and tools, 14 types of agricultural pumps, 4 types of harvesters, 79 types of processing machines for agricultural sideline products, and 73 types of livestock machines. These products are selling well and bringing economic benefits to peasants by promoting agricultural production. For example, the 3 to 5 hp walking tractors together with 3 to 4 types of supplementary farm tools are being sold for approximately 1,200 yuan, the same price as for a cow, and the operating cost is only half of what is required to keep one cow, although the quality of work is better and the efficiency is equivalent to that of two cows. The tractors can be used for tilling and preparing the soil and for field management, harvesting, and transportation. Of the 3 to 5 hp walking tractors evaluated in 1982, the five best types were: the Square-Brand Gongnong-3 of the Yongkang Tractor Plant; the Kanjiang-5 of the Jiangxi Walking Tractor Plant, the Hebei-3 of the Gaoyi County Machine-Tool Plant, the Hunan-5 of the Hengyang Tractor Plant, and the Nongyou-5 of the Fujian Tractor Plant. These five types of small walking tractors are fairly adaptable, reliable, and maneuverable with good economic results. They are welcomed by the peasants, since their performance meets the requirements of agronomy. Again, the animal-power mulching machine trial manufactured by the Agricultural Mechanization Research Institute of Haicheng County, Liaoning and the small plastic film mulching machine of Beijing Municipal Agricultural Machinery Research Institute are giving far better than manual performance because, first, they are 10- to 20-fold more efficient; second, the mulching is firmer and neater; and third, 1 kg of plastic film can be saved per mu. With the use of these machines, even wind of the third or fourth force is no deterrent to mulching, while manual mulching is difficult in the north, where it is always windy in spring. The mass production of chicken cages, vegetable cutters, feed mixers, and small chicken-raising equipment are also convenient to households specialized in chicken-raising and in developing livestock and poultry production.

For many years, the quality of farm machines was poor and their service life was short. In the past several years, however, efforts were made to improve the quality and some well-run enterprises were organized to produce small farm machines. The quality of these machines is now much better. In 1982, 87 types of small farm machines, 56.5 percent of the total number, won awards for fine quality. Of this number, 5 won gold medals, 9 won silver medals, 38 were evaluated by the ministry and another 35 by the province as fine-quality

products. The hand-operated sprayer, a fine-quality award winner, uses a porcelain spout, which is more durable than a metal one and can save 30 percent of the insecticide used.

In 1982, the small farm machines and mechanized and semimechanized farm implements and tools had a total output value of 2.6 billion yuan, an increase of 13 percent over the previous year. The output of several popular types increased even more quickly. For example, the output of small tractors reached 274,000 units, an increase of 45 percent; that of hand-operated sprayers, 8,934,000 sets, an increase of 32.8 percent; and that of rubber-tire wheelbarrows 12,693,000, an increase of 36.8 percent over the previous year. In 1982, the production of chicken-raising equipment in complete sets began, and 2,800 sets, 8-fold the planned annual production figure, were produced.

Along with the popularization of the output-related responsibility system among the rural communes and brigades, and the increase in production and income, the peasants now have more funds and their demand for small farm machines continues to increase. We should continue to step up our scientific research, production, supply and marketing, and technical service in this respect in order to supply more small farm machines of low price and fine quality.

Actively Develop Machinery for Processing Agricultural Sideline Products

In farm machine production, we must not compel the peasants to use what has been produced, but rather produce whatever they want. In the past several years, the peasants' demand for small, durable, light-weight, and oil-saving farm machines and processing machines for agricultural sideline products has greatly increased, and on the basis of extensive investigations and study, the agricultural machinery industry departments have become more aware of the need to produce machines, especially those of small and medium-size models, for processing agricultural sideline products locally; and to produce more goods in short supply while improving the old products at the same time. Guided by these correct ideas, they have compiled the following plans of development:

A. In the course of readjustment and restructuring, the Hangzhou Tea Machinery General Plant and the First Tianmen Machine-Tool Plant of Hubei were listed as key enterprises for technical transformation in the Sixth 5-Year Plan. At the same time, Wuyuan Tea Machinery Plant of Jiangxi, the First Agricultural Machinery Plant of Wuhe County, and six other enterprises were listed as being technically competent for producing small machines for processing agricultural sideline products.

B. A total of 64 projects were planned for the trial production of new products after due scientific research--new products that are urgently needed in the countryside and can yield remarkable economic results. The leading ones among them were: machines for processing cotton and tubers, complete sets of equipment for processing humulus lupulus, maize and rice, key equipment for processing tea, drying equipment for tobacco, various types of small oil

presses, rice mills, flour mills, and processing machines for subtropical cash crops. Eight of these new products have been evaluated, and six of them won awards for scientific and technological achievements, and the remaining two won fine-quality awards from the ministry.

C. Nine scientific research and testing bases were set up. They were for: the sugar beet processing of Heilongjiang Provincial Agricultural Mechanization Research Institute; the peanut and plant oil machines of Yantai Prefectural Agricultural Machinery Research Institute of Shandong; the tobacco processing machines of Henan Provincial Agricultural Machine Research Institute; the cotton processing machines of Hebei Provincial Agricultural Machinery Research Institute; the mulberry processing machines of Sichuan Provincial Agricultural Machinery Research Institute; the humulus lupulus processing machines of Xinjiang Agriculture and Animal Husbandry Research Institute; the subtropical cash crop processing machines of Yunnan Provincial Agricultural Machinery Research Institute; the sugar cane processing machines of Guangxi Agricultural Machinery Research Institute; and the native and special product processing machines of Guizhou Provincial Research Institute for Agricultural Machinery in Mountainous Areas.

D. Five machinery trade groups were formed for cotton, tea, oil pressing, flour mill, and rice mill. There are 81 enterprises throughout the country participating in the trial manufacture of new products, the improvement of old products, and the solution of difficult technical problems. They have produced good results in improving the quality of small machines for processing agricultural sideline products.

E. The importation of technology from foreign countries for processing machinery and the study of Japanese and American processing machines for tea and cotton have accelerated the trial manufacture of new products and the transformation of old ones.

In the past several years, there has been a marked increase in the number of small and medium-size processing machines for agricultural sideline products. In 1982, the number of these machines was increased by 450,000 sets for the countryside. However, in view of the increasing purchases of these machines, we must step up production and scientific research in this field in order to meet the demand of our countryside for the development of the agricultural sideline product processing industry.

(By Agricultural Sideline Product Processing Machinery
Department of Agricultural Machinery Bureau of
Ministry of Machine-Building Industry)

Water Conservancy

Actively Develop Small Hydropower Stations

For small hydropower stations, the construction period is short and the cost is low. They yield quick results and reproduce energy at a low cost, since they do not consume any fuel. They are warmly welcomed by the broad masses of peasants.

In 1982, in line with the policy of "construction and management by ourselves and for our own use," the localities built 2,630 small hydropower stations and increased the installed capacity by 610,000 kw. At the end of that year, there were more than 80,000 small hydropower stations in the country with a total installed capacity of 8.08 million kw, including 3,117 stations with an installed capacity of more than 500 kw each, and totaling 4.76 million kw. These stations generated 17.2 billion kwh a year, approximately one-third of the total amount for agriculture in the country. Of some 2,200 counties in the country, 1,574 have built their own small hydropower stations. The installed capacity of these stations in 257 counties exceeded 10,000 kw, and in 41 of these counties, the installed capacity exceeded 20,000 kw. There are 774 counties relying mainly on small hydropower stations, and in 268 counties, the power generated by small hydropower stations exceeded 20 million kwh.

In 1982, in areas where electricity was supplied by these small hydropower stations, 41,719 km of high-tension wires and 82,817 km of low-tension wires were newly put up, and new transformers with a total installed capacity of 3.27 million kilovoltamperes were added. At the end of 1982, in all the areas where electricity is supplied by small hydropower stations, a total of 480,000 km of high-tension wires (including 49,200 km of more than 35 kV) and 1.03 million km of low-tension wire were put up. There were also 2,206 power transformation stations of more than 35 kV with a total capacity of 9.18 kilovoltamperes. In recent years, Guangdong has attached great importance to the development of hydropower. In 1982, its newly installed capacity reached 134,000 kw, and at the end of the same year, the total installed capacity reached 1.21 million kw, ranking first in the country. In Sichuan, the installed capacity of small hydropower stations was close to 889,000 kw; in Hunan, it was 820,000 kw; in Fujian, 720,000 kw; and in Guangxi, 640,000 kw.

Along with the development of small hydropower stations, many counties have set up their own small power grids. More than 300 counties have formed hydropower companies or local power companies, with unified construction and management, and unified generation, supply and consumption, or unified management, operation and transmission. Some small power grids under favorable conditions merged with the large power grids at one or several points, so that whatever power left from consumption in these small power grids could be transferred to the larger grids according to the principle of supplying one another's needs.

Management over small hydropower stations has been continually strengthened in recent years. In Hunan, beginning 1980, the hydropower departments at the provincial, prefectoral and county levels formed work teams to carry out the "one examination and five standards" checks (namely, examination on the economic results and setting the standards for safety, production task, consumption, rules and regulations, and personnel) on hydropower stations of more than 500 kw. These work teams and the leadership of the power stations concerned jointly conducted on-the-spot checks on the work groups and shifts one by one. They uncovered contradictions, loopholes, and problems, and at the same time organized the resources for their solution. After repeated checks, they issued certificates of fitness. The Qiyang County People's

Power Station of this province, for example, conducted these checks three times, discovered 309 loopholes, large and small, and issued 270 certificates of fitness (with some 30 cases left in suspense, since there was shortage of materials or elements for some, and the grant of funds still pending for others). Thus, the small hydropower stations were able to improve their performance. After issuing certificates of fitness in these checks, they launched an emulation campaign and set up technical data files to further consolidate the fruits of the "one examination and five standards" checks.

In the management of small hydropower stations, small hydropower companies (or local power companies) are playing an increasingly active role. Dayi County of Sichuan had a total of 50 power stations with an installed capacity of 12,510 kw, including 47 with a total capacity of 10,010 kw; and 3 thermopower stations with a total capacity of 2,500 kw. The annual power generation was 46.34 million kwh, of which, 40.09 million kwh was from hydropower and 6.25 million kwh from thermopower. There were 80 km of 350 kV high-tension wires, four step-down transformer stations of 1.82 kilovolt-amperes, 450 km of 6-10 kV wires, and 1,500 km of low-tension wires, thus forming a small independent local power grid. The county power company formed in 1979 has exercised unified management of the small county power grid. In the past, there were many isolated power stations relying on run-off. When water was abundant, these stations could not make full use of it; and in dry seasons, they did not have enough water for operation. Again, in trough periods, the water could not be fully utilized; and in peak periods, there was not enough water. Since management was backward, the equipment could not be updated with the money from collected fees and, therefore, could not produce the desired effects. After the establishment of the company, attention was paid to the special characteristics of electric power production, namely, the simultaneous generation, supply, and use of power, and the impossibility of storing it. Then, in line with the principle of leaving the systems of ownership, the rights of use, the affiliations, and the financial relationships unchanged, the local state-run power stations and power-supply substations within the small power grids were put directly under the company which exercised unified control over the generation, supply, and use of power with the necessary authority delegated to different levels. Each level in the company has its own accounting, but the company assumes overall responsibility for profits and losses. Rules were formulated to specify the functions of the leadership as well as the rights, responsibilities, and interests of various sections and stations (and substations). These measures have achieved remarkable technical and economic results.

Since the 3d Plenum of the 11th CPC Central Committee, and the introduction of the system of production responsibility, the peasants' income has increased, their living standards have been raised, and their need for electricity has become increasingly urgent. In addition to drainage and irrigation, electricity has also been used for illumination and the processing of agricultural sideline products in many localities. Peasants have also bought TV sets and electric fans, and used electricity for processing tea and cured tobacco during the high-water seasons. Some peasants have also used electric rice cookers and electric water heaters, thus expanding the scope of services provided by the small hydropower stations into the

mountainous areas and villages, and increasing the features of rural electrification.

The policy of "construction and management by ourselves and for our own use" must be upheld in developing small hydropower stations. The funds and labor required should be obtained mainly from the localities and the communes and production brigades, while low-interest loans should be granted as state support. At the same time, in line with the principle of using electric power to support electric power, the profits of the small power grids and the profits obtained through the large power grids should all be used for the development of small hydropower stations and small local power grids instead of going to the local treasury. After the completion of these small hydropower stations, their ownership and administration should belong to the localities and peasants. They may have their own power supply areas and small power grids, and, if possible, form mergers with the larger power grids at one or two points according to the principle of "voluntary participation, freedom to withdraw, and common observance of signed contracts." The localities and peasants who built and managed the small hydropower stations themselves may set their own electricity price and offer preferential rates during high-water seasons to encourage the peasants in the use of electricity for cooking and water heating as well as to undertake some seasonal industry which requires high power consumption.

Strengthen Management of Water Conservancy, Improve Economic Results

According to a data analysis, the total volume of water consumed in industry and agriculture throughout the country now is 476.7 billion m^3 , of which 419.5 billion m^3 were used in agriculture, including farmland irrigation, animal husbandry, and water consumption by the rural population and livestock; and 57.2 billion m^3 for industry and urban consumption. Based on the target of quadrupling the GVIAO by the turn of the century, the total volume of water consumption will be increased to 647-742.8 billion m^3 at the average rate of 1.54 to 2.24 percent each year. The volume of agricultural consumption will then be increased to 529.3-595.3 billion m^3 , at the average rate of 1.17-1.76 percent each year, while industrial and urban consumption will be increased to 117.7-147.5 billion m^3 at the average rate of 3.7-4.8 percent each year. This forecast is lower than the average world level of development. In the forecast contained in a technical report by the United States in 1980, taking the volume of 1967 as the base figure, the volume of water consumption in the world in 2000 will reach 5,450,400,000,000 m^3 , with an average increase of 3.1 percent each year. Of this volume, 2.1 percent will be used in agriculture and 5 percent in industry and mining. By the turn of the century, the total volume of water consumption in our country will be increased by 170.3-266.1 billion m^3 with an average progressive increase of 7.74-12.09 billion m^3 each year. This huge increase in water supply will be quite a challenge to the water conservancy workers.

To ensure the annual increase in water supply and to solve the problem of water consumption for industry and agriculture by the turn of the century, we must step up our overall planning and strategy for water sources, carefully protect these sources, and increase our investment in the planned

development of this work. These measures cannot be overlooked. On the other hand, the question of measures to be adopted to keep the work of administration in step with this development should be carefully studied and settled in practice. In 1981, after summing up the historical experiences in water conservancy administration, it was proposed that the focus of work in water conservancy be shifted to management by, first of all, strengthening the management of the existing projects. This hit the nail on the head and is entirely consistent with the realities of water conservancy management.

In the past, people in charge of water conservancy management have made appropriate contributions in preventing flood, combating drought, generating hydro-power and supplying water for industrial and urban consumption. The shortcoming was that their activities were only confined to reservoirs, sluicegates, and dikes, all related to water conservancy projects, without considering the economic results of business. Now that we are in a position to carry out an all-round improvement of our business management with the increase in economic benefits as the goal, since 1981 all localities have begun their work in water conservancy management highlighted by the examination of safety factors, economic results, and comprehensive operation and the setting of standards for measures and plans of improvement. A foundation is thus laid for a new system of water conservancy management.

At present, we should begin with the adoption of the system of economic responsibility in the business management of water conservancy. Experiences have shown that this system can inspire the workers of the enterprises and establishments to improve business operations and management, to lower production cost, to oppose waste, to economize in the use of water, to tap potential and produce better economic results. It has also played an important role in encouraging the administrative units to complete the state's water conservancy plans and to fulfill their duties in making full use of water conservancy projects. Through the system of economic responsibility, for example, the hydropower plants under the Danjiangkou Water Conservancy Bureau have all produced good results in fulfilling the various economic and technical targets of 1982, including the targets of power generation, safe operation, and the proportion of power consumption by the plants; and in completing major repairs and updating production equipment, with the repair charges included in production cost, and reducing the stagnation of funds. Again, in the case of some water conservancy units in Guangxi Zhuang Autonomous Region, adoption of the system of economic responsibility has led to six new phenomena: first, the strengthened sense of responsibility among the units and workers, and their common effort in sharing any burden under leadership; second, distribution according to work and more pay for more work, thus overcoming the defect of "eating from the same pot"; third, a new atmosphere of respect for discipline and civilized production instead of lax labor discipline and chaotic management; fourth, promotion of engineering and irrigation management and comprehensive operation; fifth, improvement in workers' living conditions; and sixth, better relations with the broad masses and increased unity and cooperation among administrative units and local communes, brigades and teams, and local people.

Based on the experiences of various localities in practicing the system of economic responsibility, contracting by specialization was the form generally used for water conservancy projects and facilities under the collective management of communes and brigades. The system of fixed duties, fixed authority, and fixed remuneration for administrative personnel embodying a combination of their responsibilities, rights, and interests, including rewards and punishments, has induced them to concentrate their efforts on preserving the safety of projects, using them to the best advantage and making comprehensive use of water resources. For water-consuming units and peasants, the supply of water at fixed times and in fixed quantities, charging fees at fixed rates, and offering fixed maintenance services were carried out so that the water conservancy projects and facilities could be well managed and used. In dealing with administrative units in water conservancy, we should generally pay attention to two factors: 1) The careful handling of the relationship between the state and the administrative units. The economic responsibility of these units to the state must be clearly defined. In other words, the administrative units must complete all state plans, including the plans for safety, benefits, observations, maintenance, output value of comprehensive operation, revenues from water fees, net income, good operating conditions of projects and equipment, and other technical and economic indices. These are the concrete technical and economic responsibilities of administrative units as well as the basis for evaluating the standards of their operation and management. These units must correctly carry out the system of contracted financial responsibility set by the state; and by improving the management and by tapping the potential of engineering equipment and water resources, they should continue to increase the income of the workers and themselves so that they will be able to undertake technical transformation on their equipment and improve the living conditions of their workers. 2) We must set up an internal system of economic responsibility in administrative units, and carefully handle the relationship between these units and their sections, offices, work shifts, and work groups, as well as person-to-person relationships, so as to solve the problems created by the lack of distinction between good and poor work performance among workers. The requirements of state plans and the responsibility to the state must be spelled out in full detail so that organizations at all levels, down to work shifts and groups, sections and offices, and even individuals, will be aware of them and act accordingly. The system of quota management and evaluation must be perfected, and on this basis, we must overcome egalitarianism in bonus payments, so that the bonus may serve the purpose of encouraging the advanced and spurring on the backward. At the same time, we must keep up ideological-political work, do well in democratic management, and reorganize the leading bodies.

In strengthening the work of water conservancy management, we must carefully carry out the following work:

A. We must complete the work of "three examinations and three fixed norms" which should be the basic work in water conservancy as well as the foundation of water conservancy management. In order to increase agricultural output, we must in particular rely on the existing water conservancy facilities and their potential to ensure water supply. Therefore, based on the

actual conditions, including the capacity of flood prevention and the quality of engineering work as well as the conditions of supplementary projects, we will determine the responsibility of the administrative units for safety, benefits, and comprehensive operation at each stage, and then study the feasibility of further efforts in potential tapping.

B. We must set up a new system of water fees for industry and agriculture in the urban and rural areas. In the past, these fees were collected merely to maintain simple reproduction without considering the cost of water conservancy facilities, and were kept very low. This practice has already given rise to many defects, especially lack of care by cadres and people in using water and the resultant serious waste. Therefore, the scale of water fees must be revised, and this revision is of great significance in economizing on the use of water, increasing benefits, and improving management.

C. Comprehensive operation should be vigorously developed. In 1982, further progress was made in various localities in the comprehensive operation of water conservancy projects, and some provinces and autonomous regions received tens of millions of yuan in water fees and electric power fees and from comprehensive operation. This large income was attributed to the full utilization of water resources, manpower and equipment in actively developing fishery, crop farming, breeding and afforestation, and in processing industry as conditions permitted, thus creating more wealth for the state and increasing the income of these provinces and autonomous regions. At the same time, these measures improved the operation and management of water conservancy facilities and raised the workers' standards of living.

D. We must do a good job in the certification of rights over water conservancy and hydropower projects. For reservoirs, irrigation areas, power drainage and irrigation stations, water turbine stations, sluicegates and small hydropower stations, certificates should be issued to confirm the rights over them and to clearly define their scope of business operation, safety preservation and inundated areas. In Hunan, the water conservancy and the judicial departments worked together closely, with counties as units, in organizing the manpower from various quarters into work teams. By the end of November 1982, after a great deal of meticulous work in on-the-spot investigations, surveys, and engineering designs, two-thirds of the 19,376 hydropower projects in the province were certified satisfactory and the notarization office of the county's judicial bureau put its seal on the certificates to be issued by the county government. These certificates clearly specified the character of ownership and the functions of water conservancy administrative units, and provides the necessary legal protection. At the same time, it solves the problems of setting fixed numbers of personnel and fixed tasks, and plays an important role in protecting and consolidating the fruits of water conservancy, improving and strengthening operation and management, and helping the projects produce comprehensive benefits.

Aquatic Production

Improve the System of Responsibility for Fishery Production

In the past several years, the fishery communes and production brigades in China have commonly adopted different forms of the system of responsibility for fishery production, including the systems of "rewards and punishments according to several set standards," "proportionate sharing of profits," and "all-round responsibility." In 1982, the proportion of the "all-round responsibility system" practiced in deep-sea fishing was raised from 4.9 to 53.5 percent (of all forms of responsibility system). The proportion of "proportionate sharing of profits" dropped from 9.7 to 9 percent; "rewards and punishments according to several set standards" dropped from 61.4 to 19.2 percent; and the others dropped from 23.5 to 9.9 percent.

Freshwater fishery, either catching or breeding, is basically a form of agricultural sideline production, and the implementation of the responsibility system, generally the same as in crop farming, often takes the form of output-related responsibility among the specialized households or specialized groups.

This is generally how the "all-round responsibility system" works: The basic means of production, such as the fishing boats, nets, fishing gear, water areas for breeding and the other supplementary equipment owned by the collectives are contracted to the work units, which will be responsible for the productive expenditures of the current year and for fulfilling the obligations of state purchase. They also undertake such economic responsibilities as handing over depreciation funds, repair funds, public reserve funds, public welfare funds, and administrative expenses to the collectives, practice independent accounting, conduct their own distribution, and assume responsibility for their own profits and losses. Because of the close relationship between labor and remuneration, this system is warmly welcomed by the broad masses and has gradually become the main form.

There are two methods of "proportionate sharing of profits," namely, the sharing of pure benefits (net income) and the sharing of output value. The element of "centralization" is stronger in this form of responsibility system than in that of "all-round responsibility," because in addition to the means of production which are owned by the collective, all revenues and expenditures are handled by the collective in a unified way. However, the distribution among the commune members is not handled by the collective, since whatever they obtain comes from the contracting unit which shares the profits with the collective. The defect in this form of responsibility system is that in the case of output-value sharing, the production cost is borne by the collective and the contracting units need not be concerned with the practice of economy. Proportionate sharing of either output value or net profit by the collective can be likened to "the rising of a ship at high tide," because increased output automatically means greater collective profits. This consideration may either affect the producers' efforts to increase production or lead to their falsification of output figures, the private sharing of products, and other evils. Therefore, this form of

responsibility system is being gradually replaced by that of "all-round responsibility."

The system of "rewards and punishments according to several set standards" was formerly widely practiced by the fishery communes and production brigades. The "several set standards" refer to set output value, set production cost, and set work points, while "rewards and punishments" refers to the rewards to be given according to set proportions for above-quota output value and for savings in production cost; and the punishments, also according to set proportions, for failure to reach the output value quota or for exceeding the planned production cost. A special characteristic of this system is that in dealing with the contracting unit, the collective exercises unified control over financial receipts and payments, and carries out distribution according to a uniform workpoint value. Here lurks the evil of "eating from the same pot" or egalitarianism. That is why this system is practiced in only a handful of communes and production brigades in which the economic foundation is fairly solid, the standard of production management is fairly high, and the leading bodies are fairly competent. However, even these communes and production brigades are now keen on drawing on the strong points of other systems for the improvement of this system.

Implementation of the output-related responsibility system, mainly in the form of "all-round responsibility" in fishery has promoted fishery production and increased fishermen's income. In 1982, the fishery communes and brigades in 17 major provinces, municipalities, and autonomous regions had an output of 2.38 million tons, an increase of 340,000 tons over 1979. The average income for each able-bodied fisherman from distribution reached 689 yuan, an increase of 340 yuan over 1979. The per capita income from distribution was 233 yuan, an increase of 107 over 1979. Thus, gratifying changes have occurred in the fishing villages.

Affirm the Right To Use Water Surfaces and Beaches

To preserve a good ecological balance in shallow seas, beaches, and inland waters (including rivers, channels, lakes, and reservoirs, hereinafter referred to as water areas), to eliminate the pollution of water areas and to prevent indiscriminate land reclamation and reckless overfishing, we must affirm the rights to own and use water areas for the proper utilization of resources, the protection of the environment in water areas and a steady and sustained increase in aquatic production.

The demarcation of water areas to be owned and used is far more complex than the demarcation of farmland, since water areas are large, and some of them cover more than one commune, county or even prefecture and province. Some collective water areas also stretch beyond commune or brigade boundaries. Therefore, whenever any water area lies across some boundary, the question of who owns or uses it will arise. Generally, this matter is decided according to the principle that whoever owns it should use it productively. In the case of disputed areas, consideration should be given to the economic interests of all parties concerned, provided the water can be properly used to produce full economic benefits, and provided the use is helpful to the

transformation and construction of the area and conducive to the increase in productive forces as determined after consultation in various quarters.

While adopting the system of contracted responsibility even for a small water area in a production team, the right to use it must be affirmed and protected by law.

In demarcating water areas and affirming the rights to use them, the State Council approved and relayed the "Request for Instructions Concerning Certain Problems in the Present Work of Aquatic Production" from the State Bureau of Aquatic Products in May 1981, while the CPC Central Committee and the State Council jointly approved and relayed the "Report on the Acceleration of Development of Freshwater Fishery" from the Ministry of Agriculture, Animal Husbandry, and Fishery in October 1982. Certain rules were set in both cases.

Protect Fishery Resources for Breeding Maritime Products

In 1982, the leadership in various coastal areas and the aquatic products departments scrupulously observed the forbidden zones and periods for fishing, readjusted methods and fishing gear that may seriously jeopardize resources, and did a great deal of work in protecting the propagation of fingerlings.

The departments in charge of fishery in Guangdong and Guangxi, and the Huang Hai Aquaculture Research Institute have separately built or expanded artificial fishing grounds along the coast by setting up 1,850 fish shaols which not only provide habitats and other facilities for propagating and feeding fish and other economic animals, but also help protect the coastal resources by promoting the use of encircling nets, dragnets and hooks and lines in fishing. They have become good fishing grounds for artificial propagation for the catch of fine-quality fish. The Huang Hai Aquaculture Research Institute has conducted experimental fishing in the artificial fish shaols at the Hujiashan sea area and caught more than 1,000 jin of fine-quality fish, including porgy, eel, and perch, which were rarely caught in the Huang Hai area in the past. Qisha Commune of Fangcheng Multinational Autonomous County, Guangxi, also conducted experiments on the shaols, and the catch by small boats using gill hooks was increased by 97 percent over 1981, and the Ministry of Foreign Trade bought 45,000 jin of live red snappers and groupers. In experiments on other shaols, the catch was invariably 80 percent more than before. This shows the promising future of artificial fish shaols in the propagation of our seawater fish.

In Zhejiang, three varieties which can be profusely propagated, have short lives, and are of high economic value--namely, prawns, cuttlefish, and jellyfish--were chosen for artificial propagation in different ways in the coastal seas. Chinese prawns were originally produced in the Huang Hai and the Bo Hai. In 1982, their breeding place was transferred to Xiangshangan, and more than 20 million larvae were released. According to a forecast, the larvae of 3 mm released in June would grow to a length of 13-17 mm upon being caught in October, generally 2 mm longer than those bred with other artificial methods. Artificial breeding of cuttlefish and jellyfish has also begun.

To protect the sustained development of ocean fishery, the localities have also actively reformed fishing gear and fishing laws. They turned their attention to the small local varieties which had been overlooked in the coastal seas, while at the same time developing the outer sea resources. Shandong adopted the use of float trawls for half beaks in the coastal seas. Dalian City of Liaoning trial manufactured the small purse seine, 22-Pan, for exploiting the anchovy resources in the coastal seas, and caught 4,500 tons of them with an output value of more than 1 million yuan in 2 months. In Fujian, fishing was carried out in the coastal seas off the Mindong and Minzhong areas for such upper depth varieties as Japanese mackerel, round scad, spotless scad, and large-scale scad. Lighted seines and purse seiners were used in fishing. Guangxi developed the fishing ground in the southern part of Beibuwan with the use of trawlers, while Guangdong opened a deep-sea fishing ground in the Nan Hai using deep-water gill netters [gou ce 3297 0459] which, compared with motorized boats of the same type, have higher yields, better quality, and greater stability. Its output approaches that of trawlers but is better in quality, and the output value is more than 36 percent higher. It also consumes less fuel, and the production cost is low. It is helpful for the accommodation of surplus labor and the reduction in the intensity of coastal sea fishing. Its economic results are remarkable.

Build Fishing Grounds in Outer Seas

China's fishing fleet visited the outer parts of Dong Hai and Huang Hai [near 125°E Latitude] in the mid-1960's. In the early 1970's, a fleet of lighted purse seiners was built, and fishing in outer seas with motorized purse seiners began.

In recent years, there has been a certain success in the protection of resources, the readjustment of coastal fishing, and in opening outer-sea fishing grounds. However, because of the surplus of labor in the coastal fishing grounds and the development of fishery by agricultural communes and brigades, the number of fishing boats and the amount of horsepower have increased a great deal, and the capacity for catching has exceeded the reproductive capacity of fishery resources. In 1981, compared with 1978, for example, the number of motorized fishing boats was increased by more than 21,000 with 800,000 hp, and yet the output dropped by 300,000 tons. This was a great handicap to the development of state-run ocean fishing. Therefore, the opening of outer-sea fishing grounds for the development of fishery has become an urgent need of the moment.

Based on a survey of the fishery resources in the outer parts of Dong Hai, Huang Hai, and Nan Hai, and on the utilization of their resources, there is still some potential to be tapped for the upper-middle depth fish in outer Dong Hai, and for deepwater trawler fishing in outer Nan Hai. We must step up our outer-sea activities to make full use of these resources.

A. The upper-depth fish of Dong Hai and Huang Hai (mainly anchovy and scad). According to an estimate by the aquaculture scientific research department, there are approximately 1 million tons of aquatic resources (including some of those migrating from coastal seas). The total catch in recent years was 430,000 to 500,000 tons, of which only 70,000 to 110,000 tons belonged to

China. The state-run motorized seiners were mainly used in the Dashayu fishing ground for mackerel and scad, but the resources west of the five islands and in the deepwater fishing grounds of Pengjie Island and Daiyu Island have still not been well utilized. Furthermore, the Far East pilchards in the waters around Japan are growing very rapidly, and their output reached 3.2 million tons in 1981 and 3.8 million tons in the first half of 1982. Some individual fishing companies of China have caught this fish but only in very small quantities. Basically, this resource has not been utilized.

B. The bottom-depth fish of Dong Hai and Huang Hai. According to surveys and exploratory catches by the departments concerned, except for black scrapers, which have also been exploited and caught, it is unlikely that other varieties can be developed in large quantities since the resources of other bottom-depth fish is only about 140,000 tons and the amount available for fishing is only 30,000 to 40,000 tons. The other larger varieties are big-eye porgy, pomfret, Japanese mackerel, and Spanish mackerel. Among the recently discovered varieties are squid, cuttlefish, shuizhen [3055 3791] fish, scaly head pomfret, and so forth.

C. Bottom trawl fish of the outer sea in the continental shelf of northern Nan Hai. The potential is great and 80,000 to 180,000 tons are available for fishing. After experimental catches with trawls by the production departments, it was believed that the output in terms of nets in the sea at a depth of more than 100 m was close to that of coastal seas, and the catch consisted mostly of large, fine-quality horse mackerels, Japanese mackerels, round scad, gold-thread fish, lizard fish, double-fin pomfret, and other economic fish. In recent years, the output of our state-run fishing boats in Nan Hai area was only some 40,000 tons including a very small portion caught in the outer seas. The resources of tuna fish in the vicinity of Xisha, Zongsha, and Nansha Islands of Nan Hai, and the fish of the upper-middle depth between Xisha and Dongsha Islands are also widely spread out. Since the activities of our state-run fishing boats in Nanhai are only limited to bottom trawl in coastal seas, the deepwater and the upper-middle depth fish resources in the outer seas have not been fully utilized.

In view of this, we should in the future direct our main attention to the upper-middle depth fish of Dong Hai in the development of outer-sea fishery, strive to raise the per unit output with the existing lighted purse seine method and fully tap the potential. At the same time, attention should also be paid to the exploitation of the deepwater trawler fish resources in Nan Hai which have not been fully utilized.

Pay Attention to Breeding in Small Water Surfaces

Freshwater pisciculture developed fairly rapidly in the past several years. Output was 813,000 tons in 1979, 90,500 tons in 1980, 1,014,000 tons in 1981 and 1.2 million tons--a 58-percent increase over 1978--in 1982, with an average annual increase of 14.5 percent in 4 years. However, the per capita amount of fish products is still very low and far from adequate for people's demand.

When the resources for our ocean fishery as well as our catch in the rivers and lakes are diminishing, it is even more necessary that our freshwater breeding be developed. To accelerate our freshwater pisciculture at present, we must particularly pay attention to breeding in small water surfaces. Of the water surfaces used in pisciculture for many years in the past, small water surfaces have occupied the leading position. In 1981, the total area of water surfaces used in freshwater pisciculture was 43.2 million mu, of which 12.71 million mu, 29.4 percent were ponds, which had an output of 719,000 tons, 70.9 percent of the total output. However, the per-mu output of these ponds was only some 100 jin, and there is very great potential to raise the output of these small water surfaces. As we can see from the situation in several key fish-producing provinces, the area and output of ponds in Jiangsu amounted to 33 percent of the total provincial area of pisciculture and 56.5 percent of the provincial output. In Zhejiang, they were 20.5 percent and 60 percent, respectively; in Hubei, where people were mostly engaged in catching, these proportions were 34.1 percent and 69.4 percent; and in Hunan, 53 percent and 78 percent.

Small water surfaces are generally spread out in one commune or one production team. They are easy to control, and the problem of feeding can be easily solved. Since the technology required is fairly mature, and the increase in their output and income is steady and reliable, they most aptly embody the characteristics of pisciculture of requiring less investment and producing quick results. It is an important means for the peasant to develop economic diversification and to become wealthy. The second fishery team of Hele Commune in Wusi city had 226 mu of fish ponds. In 1981, the fish output was 276,000 jin, with a net per-mu output of more than 1,800 jin. Their income from this source amounted to 278,000 yuan, a gross income of 1,230 yuan and a net profit of 620 yuan per mu. Of the per-mu gross income, 600 yuan came from vegetables, 400 yuan from tea, some 300 yuan from mulberry and 280 yuan from agriculture. Generally, the income from 1 mu of well-managed pond surface could be as much as that of 2 to 3 mu of land for agriculture, and the net income of one able-bodied person engaged in pisciculture was several times that of another engaged in crop farming. According to a survey in Hanshou County, Hunan, the per capita income in the countryside exceeded 1,700 yuan in 1982 and 70 households became fairly well-to-do ahead of schedule. Of these households, 24 were engaged in pisciculture.

Adoption of the system of responsibility for production in different forms in the past several years has played an important role in the development of freshwater pisciculture. The right to use the water surfaces of small ponds in the countryside, in particular, is more clearly defined and the system of management over them is more stable than over large- and medium-size lakes and reservoirs. Therefore, these small water surfaces are more suitable for the output-related or other forms of systems of responsibility for production. That was how many specialized (priority) households have emerged in the countryside for pisciculture. This mode of production is consistent with the special characteristics of pisciculture carried out in widely scattered fish ponds and requiring high skills. It can also help solve the problem of grain ration for the specialized labor and the problem of feeding the fish, besides offering an opportunity for piscicultural experts to

demonstrate their professional skill and encourage the commune members to learn their techniques. In Hubei, the number of specialized households in pisciculture was increased to more than 20,000 in 1982. These households have become a newly emerging force in the province's piscicultural production.

The basic elements required for high piscicultural output are "water, fry, and feeds." In other words, in order to preserve the good environment of water bodies, we must be able to maintain a water level of 2 to 3 m by adding or reducing water. The water must be fresh and fertile, and sufficient quantities of good and healthy fry should be released in the water. The varieties of fry should be well matched, and sufficient feeds should be provided. Under careful management, including the prevention of disease, fairly high yields can be obtained. All these requirements can be fairly easily met by small water surfaces. In Foshan Prefecture of Guangdong, a prefecture with a long history of pisciculture, the area of fishponds totaled 630,000 mu, and the average per-mu output reached 530 jin in 1982. In Mianyang County, Hubei, where the area of fishponds in the state's commodity fish base had developed to some 20,000 mu in recent years, the output in 1982 reached 7 million jin with a per-mu output of 333 jin.

In making use of small water surfaces, the following three factors should be noted:

A. Transformation of old ponds. In the vast countryside of China, the area of ponds totals 16 million mu, of which 13 million mu are used for raising fish. There are still more than 3 million mu which can be utilized under the system of output-related responsibility. The ponds in front of and behind houses can be assigned to communes to develop household pisciculture. Fairly large numbers of these ponds, either already utilized or still waiting to be utilized, have been long in disrepair. Their ridges have collapsed, the water is shallow, and the ditches required for drainage or irrigation as well as the feeding facilities are insufficient. These ponds must be transformed. In Jiaxing Prefecture, Zhejiang, 38,500 mu of fishponds have been transformed since 1979, and in 1982, the per-mu output reached 700 jin, double the amount of 350 before the transformation. There are still more than 1,000 mu of fishponds spread out in the countryside. If they, too, are transformed into intensive aquacultural ponds of a high standard, and with careful feeding, the increase in output will be very considerable.

B. Building new fishponds. In recent years, great achievements have been made in various localities in readjusting the agricultural pattern, developing economic diversification according to local conditions, and digging fishponds in the lowland, deserted beaches, marshland, and waste caves. In more than 10 provinces and municipalities, including Hunan, Hubei, Jiangsu, and Jiangxi, the deserted beaches where it would be unprofitable to grow grain, and the lowlands which could be easily flooded, were converted into new fishponds. Many waste caves in Beijing and Tianjin, and marshland in Heilongjiang which had been left untouched for thousands of years, are now showing their worth in natural resources which have increased the productive capacity for fish. In the 5 years ending 1982, state bases for commercial freshwater fish totaling 700,000 mu had been built, of which 500,000 mu has been put into operation. Their total output will be close to 50,000 tons and

the per-mu output will be 70 percent higher than the national average. The fishing ground of Caojin Commune of Huarong County, Hunan, had a per capita distribution of 400 yuan in 1982, almost 3 times the 142 yuan before the construction of the base. In Doumen County, Guangdong, 200,000 of the 400,000 mu of farmland is below the water level of the Zhu Jiang. This area is frequently subject to flooding from tides and heavy rains, and the grain output is low. Since 1978, the people have dug fishponds, raised the bed of the farmland, and expanded the acreage of sugar cane in a three-in-one combination of grain, sugar cane and fishery development. Output of all three increased and the commune members' income increased greatly.

C. Utilization of small lakes, reservoirs, and the surfaces of rivers and ditches. Freshwater aquaculture is now developing in depth and breadth. More and more ponds are being used for intensive raising with high output and some small- and medium-size lakes, reservoirs, and rivers with the areas of surfaces ranging from some 100 mu to about 1,000 mu are changing their method from crude to intensive raising. In Wuiang County, Jiangsu, the supplementary facilities and improved methods of feeding have helped increase the per-mu output of the small lakes, reservoirs, and river surfaces from the scanty output of a few tens of jin by several times over. In Shaoxing, Zhejiang, the use of net cages to nurse fry was combined with the use of small lakes, reservoirs, and rivers to raise adult fish, and the per-mu output of adult fish was greatly raised. Therefore, as long as we adapt measures to local conditions, use practical and effective methods, improve the equipment for blocking rivers and varieties of fry and feeds, we can raise the per-mu output from 10 and more jin to scores of jin or even to more than 100 jin.

Vigorous Development of Breeding in Beaches of Shallow Seas

In China, the beaches of shallow seas have suitable climates and fertile water and more than 20 million mu can be used for breeding fish, shrimp, shellfish, algae, and crabs. Labor is abundant along the coast, while seawater breeding requires less investment and yields quick returns with high and stable output. According to a survey on some model production units, each mu used for breeding kelp can bring a net income of 300 to 400 yuan each year; 1 mu of scallops can bring 400 to 500 yuan; 1 mu of oysters, razor clams and clams, 300 to 550 yuan; 1 mu of laver, 300 to 600 yuan; and 1 mu of mussels, 200 to 300 yuan. Development of seawater breeding can add to the amount of high-protein food for the society, and increase the income of fishermen and peasants. It is a promising undertaking.

In the past several years, many fishing villages along the coast have implemented the principles and policies adopted after the 3d Plenum of the 11th CPC Central Committee, and practiced the output-related responsibility system to promote the development of seawater breeding. In 1982, the area of seawater breeding reached 2.44 million mu, a 36-percent increase over the 1,747,000 mu of 1979, and a 14-percent increase over the 2.08 million mu of the previous year. The output from this source reached 490,000 ton, an increase of 18 percent over the 416,000 tons of 1979 and 7 percent over the 458,000 tons of the previous year.

Shellfish, fish, and some sea products of high value were the items which registered large increases on the beaches last year. For sinonovacula constricta, variegated clams, hard clams, oysters, and arca granosa, and other shellfish on the beaches, thanks to the adoption of flexible policies and the improvement of the system of responsibility for production, the technology of nursing larvae in mud ponds has been rapidly popularized. In Fujian alone, the area of these mud ponds was increased from 4,000 mu in 1981 to 20,000 mu in 1982, and the production of larvae is being gradually controlled artificially, resulting in high and stable yields. The area of beaches used for breeding shellfish was increased to 1.31 million mu in 1982, an increase of more than 60,000 mu over the previous year. The output of shellfish from beaches totaled 141,000 tons, an increase of 13,500 tons. Seawater breeding of mullet and African crucian carp was given priority in the development of seawater fish. In addition to the two breeding bases built in 1982 with state support in Qingtuozhi of Tanggu district in Tianjin and Qidong of Jiangsu, seven others were built in Donggou of Liaoning, Rushan of Shandong, Kanyu of Jiangsu, and Qinzhou of Guangxi. These bases consist of 1,250 mu of ponds for nursing fry and 15,050 mu for raising adult fish. In 1982, the area used by the people for breeding amounted to 460,000 mu, an increase of 90,000 mu over the previous year, with an output of 6,000 tons, an increase of 25 percent. For the breeding of prawns, the technologies of nursing the larvae and raising the adults are relatively well matured and the jointly operated bases enjoying continued state support have developed their production fairly rapidly. The area of prawn breeding was increased from 206,000 mu in 1981 to 248,000 mu, including nearly 50,000 mu of ponds for intensive breeding. They produced 2.6 billion larvae, an increase of 1.6 billion over 1981 at the rate of 60 percent. The output was sufficient for prawn breeding not only in the beaches, but also out in the sea. As a result, the output of prawns was greatly increased. In 1982, the production of sea scallops, sea cucumber, and abalone has also undergone new developments. There were 40 larvae-nursing units with 15,000 m³ of water, producing 250 million baby shellfish, 30 million baby sea cucumbers, and 2.65 million baby abalones, the output being 3-, 1.5-, and 27-fold those of 1981, respectively. In addition, semiartificial nursing yielded 453 million baby sea scallops. The area for breeding sea scallops was 2,000 mu, double that of 1981; the area for breeding sea products of high value reached 61,500 mu, and their output was increased from 150 to 1,200 tons, an increase of about 7-fold.

In 1982, 750,000 silvery salmon eggs were imported from the United States in 2 shipments, as an addition to the fine varieties for seawater breeding in China. These eggs were hatched in the aquatic research institutes of Dalian, Mudanjiang, Benxi, and Beijing. More than 90 percent were successfully hatched, and the fry are growing well. In addition, breeding of 15.36 million baby oysters imported from Japan was separately tried out in Dalian of Liaoning, Rongcheng, and Luoyan of Fujian. Their survival rate and dressing percentage were high and their growth was rapid. The oysters imported from Japan by Zhejiang have been bred for several generations, and are being produced on a large scale in Leqing and several other counties.

Because of the flexible policies adopted in the fishery areas, kelp sales volume exceeded output of the same year, and the pressure of overstocking in

the previous several years was gradually eased. The output of sea scallops reached 105,000 tons, the highest in history. Instead of being overstocked, it even ran out of stock. Signs of improvement have also appeared in the use of kelp for making iodine and gelatine, and in the processing of kelp and sea scallops into foodstuffs.

To accelerate the development of seawater breeding, we must attach great importance to the processing, transportation, and marketing of seawater products. We must divide the beach areas to be used, further implement and improve the system of responsibility for production and actively support the specialized and priority households. We must also raise the standards of science and technology and pay attention to economic results so as to bring into full play the tremendous potential of the long slumbering beaches of shallow seas.

Technological Measures of Agricultural Production

Agriculture

Technology of Cultivation by Mulching With Plastic Film

The use of plastic film for mulching in cultivation (briefly referred to as mulching with plastic film) is a protective cultivation technology imported from foreign countries in 1978 for speeding up the maturing of agricultural crops, increasing their output and improving their quality. In 1979, 48 units in northeast, northwest, and north China conducted experiments mainly with this method of mulching on only 663 mu. Through these experiments, they have initially discovered the technology of mulching that is suitable for China. This technology has continued to develop in the past several years, and the area of its application has been speedily expanded. In 1982, the number of crop varieties under experiment was increased to 72 in the country, and the area of mulching reached 1.77 million mu, a 7-fold increase over the 220,000 mu of 1981, including 850,000 mu of cotton, 310,000 mu of vegetables, 300,000 mu of peanut, 200,000 mu of rice seedlings, and 110,000 mu of other crops. In Xinjiang, Shandong, and Jiangsu, the mulched areas were mostly more than 200,000 mu, while in Liaoning it was more than 400,000 mu.

Mulching with plastic film helps speed up the ripening and increase the output because it can create a fairly stable ecological environment for the farmland by coordinating all the single factors of water, fertilizer, light, heat, and air which affect the output and ripening and then let them supplement one another more effectively. According to the result of experiments, mulching with plastic film can generally increase the output by more than 30 percent. In the use of plastic film for mulching cotton fields, for example, we can overcome the difficulty of achieving a full stand and an early appearance of seedlings. It accelerates the appearance of seedlings and the formation of buds and bolls, and the bolls thus formed are more numerous and heavier with more lint. The per-mu output is also 30 to 50 jin more than that of exposed cotton fields. In 1982, an unprecedented output of 300 jin per mu was achieved in Liaoning, Xinjiang, Shanxi, and Henan. In Jiangsu, Hunan, Hubei, Zhejiang, and Jiangxi, mulching with plastic film was first used on early rice seedlings, and the result was a full stand of sturdy and early ripening seedlings and increased output. The investment was reduced by approximately 80 percent. In Liaoning the same method was used on paddy rice, and the per-mu output was increased to 500 to 600 jin, an increase of about 200 jin over the output of exposed farmland. In Beijing, Liaoning, and Jiangsu, the use of plastic film on scaffoldings and the ground raised the per-mu output of vegetables and fruits by 30 to 50 percent and advanced their appearance on the market by 5 to 15 days. The special effect of mulching with plastic film on peanuts is shown by the higher output of nuts with larger pods and a higher survival rate. The seeds are plump and the output is 30 to 50 percent higher. It has also increased the output of sugar cane, beet root, tobacco, melons, and medicinal herbs to varying extents.

To ensure that this technology can produce the effects of early ripening and increased output of fine quality, we must adopt the related technologies of intensive farming and scientific application. In the past several years, many localities have gained new experiences in combining mulching with plastic film with the related agrotechnology and measures. In Liaoning, for example, to prevent presenility of cotton under plastic film, people used barnyard manures and phosphorous fertilizers as the base fertilizers for deep application and nitrogenous fertilizers for both base and top dressing. The plants were watered twice at the flowering stage, and these measures effectively prevented presenility. Many localities using plastic film for mulching used organic fertilizers and phosphorous fertilizers for the bottom application, filled in enough subsoil water, select large seeds of the medium ripening variety to be sown at the appropriate time, and used weed killers to strengthen field management at the middle stage in their comprehensive management. If we want to use plastic film for mulching to prevent early rice seedlings from rotting and to help them grow sturdily and with high output, it is most important that the plastic film not stick to the topsoil to form a sticky plaster. Therefore, we must be careful in doing three jobs: 1) The seedling bed must be well ventilated with an even surface that is convenient for drainage and irrigation. 2) After sowing, something like moss, dried cow dung, rapeseed, grass-seed husks or crushed duckweed should be used to cover the soil to prevent its direct contact with the plastic film. 3) There must be no watering of the rice shoots before the "two-leaf" [erye 0059 0673] stage. However, the seedling board must be kept moist, and the water accumulating on the plastic film after rain must be removed. Wixi City took the comprehensive measure of combining the use of plastic film for mulching with the methods of shortening the duration of sprouting, nursing sturdy shoots, and intensive planting, and as a result, tomatoes, eggplant, and chili all had early ripening, with fine quality and high output.

To popularize the technology of mulching with plastic film in an active and steady way and according to local conditions of crop farming, the Ministry of Agriculture, Animal Husbandry, and Fishery and the Ministry of Light Industry held a meeting in Taiyuan, Shanxi, in March, 1982, for the exchange of experiences in the use of this technology, and for studying the measures for its further popularization. In addition to the cooperation of the industrial and commercial departments in the production and supply of these mulching films, publications and radio stations were used to disseminate the basic knowledge of this technology and its effects on output. These measures should help popularize the technology to a certain extent.

Remarkable Increase in Output of Grain Crops as Result of Spraying Potassium Dihydrogen Phosphate Solution on Roots

Spraying the roots of wheat, rice, and other major grain crops with potassium dihydrogen phosphate solution generally produces remarkable effects on output. Many provinces, municipalities, and autonomous regions are now using this method on a large scale to increase grain output. According to a survey in 1982, this method has been adopted in 16 provinces, municipalities, and

autonomous regions including Hebei, Henan, Shaanxi, and Anhui. In Henan, the area of wheat sprayed with this solution was expanded from some 200,000 mu in 1981 to 13.5 million mu. Output surveys of the province at many points showed an increase in the per-mu net output of wheat by 40.6 jin, a 7.3 percent increase. According to an estimate by the Henan Provincial Agricultural Department, the use of this method has increased the wheat output of the province by more than 500 million jin in 1981. In 1982, the area was further expanded to more than 20 million mu, 23 percent of the total wheat area. The area of wheat fields so treated in Shaanxi, Anhui, Shandong, and Shanxi has also been rapidly increased, with a marked increase in output. Most of the provinces, municipalities, and autonomous regions south of the Chang Jiang are using this technology on their rice crops. In Hunan, the area sprayed with this solution was only some 1 million mu in 1981; in 1982, it was sharply increased to about 12 million mu. According to an output survey on 26 units by the provincial agricultural department, the average per-mu output of cereals was increased by 59 jin, an 8-percent increase, and in 1982, the rice output was increased by 3.5 billion jin in the province. One of the causes was that the increase of 2 grams per 1,000 seeds was closely related with the spray of potassium dihydrogen phosphate. Marked effects of this solution was also shown in Hubei. In 1981, 3.5 million mu of paddy rice was so sprayed, and the per-mu output was increased by 30 to 50 jin. The provincial agricultural department signed a contract with Caoshi Commune of Honghu County for spraying 35,000 mu of double-season late rice, and the per-mu output was raised to 759.2 jin from 694.9 jin, the per-mu output before the spray, an increase of 61.5 jin [figures as published]. The commune had a total increase in grain output of 2.25 million jin. In addition to wheat and paddy rice, this method was used by many localities on maize, tubers, cotton, and oil plants for top dressing with good results.

The area sprayed with this solution requires less fertilizer and produces better economic results. Generally, 3 liang of this solution is used on each mu of wheat and 4 liang on each mu of paddy rice, and the investment in each mu is only 0.6 to 0.8 yuan. If aerial spraying is used, the investment would be increased by 0.2 to 0.25 yuan for this extra service. In 1981, based on an increase of 40.6 jin in the per-mu output of wheat, the net income of Henan would be increased by 6.1 yuan, 6.6-fold the investment. If the spray were carried out manually, the expenses would be even less.

Potassium dihydrogen phosphate is a highly concentrated potassium phosphate compound generally containing 50 percent of effective phosphate and 35 percent of effective potassium. If the solution is sprayed on the leaves, the fertilizing liquid will find its way through the leaf surface into the wheat stalk and directly replenish the phosphate and potassium nutrient, readjust the proportion of nitrogen, phosphate and potassium in the plant body, and raise the efficiency of nitrogenous fertilizers in increasing the output. Thus, it strengthens the photosynthesis of the functional leaves, promotes the metabolism in the regenerative process and the formation and operation of carbohydrate. It will speed up the ripening of crops and increase output. According to investigations in Henan over many years, if any wheat has been sprayed with this solution, the function of the "three leaves" in the upper part of the stalk can be prolonged by 3 to 4 days and the filling is quicker.

If the spraying is carried out before booting, the weight per 1,000 seeds would reach 3.21 grams, an increase of 0.25 gram 5 days after flowering and 1.9 grams before harvest. The number of spikelets which can be booted will be increased by 2.26 grains, and after ripening and drying, the weight per 1,000 wheat seeds will be increased by 1.52 grams. The weight per 1,000 rice seeds can be increased by 0.8 to 2 grams, and the proportion of husk reduced by 3 to 4 percent. The ripening can also be advanced by 2 to 3 days. In the north, after spraying, crops can ripen earlier and avoid damage from low temperatures. Output will be increased. Used on the wheat-producing areas in the central plain and in the south, it replenishes nutrients for wheat at the late stage, increases its power to retain moisture, and reduces the damage caused by dry and hot winds. In the rice-growing areas of the south, it can increase the crop's resistance to high temperature. The late rice can ripen early to avoid exposure to cold winds.

Through their experiences in production, different localities have discovered different suitable periods for the spraying of this solution: wheat in the booting stage and paddy rice in the full-stand period when it would produce the best effects. Many new developments have now taken place in the use of this technology. Used in combination with insecticide, plant hormone and trace elements, it can produce multiple effects in one operation. For rice and wheat plots with medium and low yields, the addition of 1 to 1.5 jin of urea per mu would produce better results. In case of insect pests, some insecticide can be added to produce both fertilizing and pest prevention effects.

Seed Selection for Rapeseed With Low Erucic Acid Content and Its Cultivation

Erucic acid is one of the main forms of fatty acid in rapeseed. At present, the rapeseed of China contains about 48 percent erucic acid. (According to WHO regulations, erucic acid content should not be more than 5 percent.) If the erucic acid content is high and the human body cannot absorb it, the nutritional value of rapeseed will be reduced. To improve the quality of rapeseed, to expand our exports, and to improve the quality of food and pastry for the sake of people's health, we must stress the need to popularize rapeseed low in erucic acid and to attend to the nursing of seeds.

A. We have already made gratifying progress in the work of importing rapeseed low in erucic acid and nursing the seeds.

1. We have initially verified the erucic acid content in our rapeseed varieties and have imported from foreign countries a shipment of "single low" and "double low" varieties to provide abundant resources for quality-seed breeding.

2. We have trained and formed a technical force of more than 100 persons for quality-seed breeding, and after sending them abroad for inspection, advanced study and cooperative research, and by inviting in foreign experts to give lectures, the technological standards have been greatly raised.

3. Now breakthroughs have been made in the technology of testing. Using the methods of the Pacific Seed Co. of Australia and of Goettingen University of West Germany for reference, the Oil-Plant Research Institute of the Chinese Academy of Agricultural Sciences used some Chinese-made reagent to devise a semiquantitative paper chromatography (for rapeseeds) which could process 300 samples a day. This method is suitable for those units which do not possess any chromatograph. The semiparticle [banli 0594 4721] method popularly used in foreign countries has been adopted in many seed-breeding units. Recently the Academy of Agricultural Sciences in Fujian invented the method for sectioning rapeseeds and chromatography for erucic acid, and each chromatograph could process more than 700 samples a day, 5 to 6 times faster than the semiparticle method (which processes some 100 samples per day), at only one-seventeenth of the cost. The success in this research has helped a great deal in the extensive quality breeding of seeds for rapeseed with low erucic acid.

4. The imported "single low" and "double low" varieties of the Ouluo, Tuo'er, and Lijin types have already found their permanent home in the rapeseed-producing areas of the northwest. After many years of experiments and demonstrations, these varieties are now warmly welcomed by the broad masses, and in Xinjiang, Gansu, Qinghai, Ningxia, and Nei Monggol; their acreage amounts to more than 200,000 mu. Yunnan and Guizhou are now conducting experiments at many points, and the initial result has proved their ability to use imported varieties directly.

5. In China, 8 units have already succeeded in breeding 37 new types of rapeseed with low erucic acid. Among these units, the Oil-Plant Research Institute of the Chinese Academy of Agricultural Sciences has conducted experiments for appraisal at 19 locations in 7 provinces along the Chang Jiang valley. In 1983, the demonstrational breeding areas expanded to 2,000 mu. In 1982, the Jiangsu Provincial Seed Co. organized all the regions of the province that were growing new varieties of rapeseed with low erucic acid to conduct preparatory experiments, and these experiments continued up to 1983. The "264" variety which was successfully bred by the Huaiyin Prefectural Academy of Agricultural Sciences is now being planted for demonstration over about 50,000 mu in Huaiyin, Sugian, and Shuyang Counties. To continue the active and steady breeding and popularization of rapeseed with low erucic acid, the Agricultural Bureau of the Ministry of Agriculture, Animal Husbandry, and Fishery has made unified plans for nationwide experiments to be conducted at many points. These experiments were conducted on 17 varieties at 50 locations in 20 provinces to determine their fecundity and adaptability.

B. The key to the successful cultivation of rapeseed with low erucic acid lies in their isolated breeding and planting.

The ultimate objective of planting rapeseed with low erucic acid is to keep the erucic acid content below 5 percent, and the main way to control the breeding and cultivation of fine strains is separation for the preservation of purity. Rapeseed comes from cross-pollination, and the erucic acid content of the cabbage type is affected by the allelomorph in the embryo and not controlled by the maternal gene. When rapeseed with low erucic acid is

planted under natural conditions, erucic acid content increases several times over, and strict measures for the preservation of purity are necessary. The preliminary experiences gained by the Oil-Plant Research Institute of the Chinese Academy of Agricultural Sciences, the Jiangsu Provincial Academy of Agricultural Sciences, and the Huaiyin Prefectural Academy of Agricultural Sciences are as follows: The breeding units or the provincial seed departments should organize the unified breeding of stock seed, while the county seed departments should organize the breeding of fine strains to be supplied to the producers for direct production of commodity rapeseed, and the seed should be changed once a year. As to the erucic acid content of the stock seed, fine strains and commodity rapeseed, the oil-plant research institute proposed that it be kept below 0.2 percent, 1 percent, and 5 percent, respectively. (Jiangsu Provincial Academy of Agricultural Sciences proposed a ceiling of 1 percent, 2 percent, and 5 percent, respectively.) To ensure that these standards are met, we must utilize the fairly complex topographic conditions of China to set up isolated breeding areas, and take such purity-preservation measures as banning the growing of any crop of the mustard family, moving away all bee colonies, and strictly getting rid of impure and inferior varieties. It must be harvested, threshed, processed, and stored separately according to the result of sample analysis and other purity-preservation measures. By this means, the low content of erucic acid of the rapeseed will be preserved. Isolated planting should be practiced even in large fields. (No rapeseed with high erucic acid content or any plant of the mustard family can be grown within a radius of 1 km.) They should be planted in separated plots which should be changed every year. Their harvesting, threshing, and storage should also be carried out separately. Their procurement, storage, processing, and transportation should also be closely coordinated to avoid mechanical adulteration. By this means, it will be possible to keep the erucic content of commodity rapeseed below 5 percent.

Animal Husbandry

Develop the Production of Milk Cattle

In 1982, China had 817,000 head of milk cows and about 2.6 million head of milk goats of fine or improved breeds. The total cow milk output reached 1,618,000 tons, and that of goat milk reached 340,000 tons. Compared with 1973, the number of milk cows and milk goats has more than doubled.

Main Ways To Develop Production of Milk Cattle

First, in large and medium cities, we should vigorously develop the breeding of milk Holsteins to produce and supply fresh milk. In the countryside, we should combine the milk Holsteins with local cows for crossbreeding. The milk output of hybrid cows is generally 2,000 to 2,500 kg. In places where the conditions of herding and semiherding areas are fairly good, generally oxen of the milk-and-meat type should be used with local cows for crossbreeding. The first generation of their offspring, as adult cows, can produce about 1,500 kg of milk annually. In Anda County, Heilongjiang, milk cattle are being rapidly developed by the state, collectives, and individuals. In the first half of 1982, their number reached 13,700 head, more than double

the number of 1977, and averaging 1 head for every 4 households. Total milk output reached 21,700 tons that year, an increase of 64.4 percent over 1977. The average annual milk output of each head was 3.5 tons.

Second, milk goats (of the Shaneng [5446 5174] breed) and local goats are extensively used for crossbreeding to raise milk output. The mixed-bred she-goats can produce 600 to 800 jin of milk each year. Although their milk output is low, these goats are physically small, can tolerate coarse feed, and are easy to control. They can be tended in flocks or by households in smaller numbers. In Fuping County, Shaanxi, Shaneng milk goats were imported in 1972 to improve the local she-goats. After 10 years of crossbreeding and improvement, their number was increased to 123,000 head at the end of 1981; 9,107 tons of milk was delivered to the state in the same year. Besides supplying the state with milk products, they also increased the commune members' income.

Third, in the agricultural areas of the south, people mostly used India's Mola buffaloes and Pakistan's Nili for crossbreeding with the local buffaloes to raise milk output. According to the experiments of Guangxi Livestock Research Institute on various types of crossbreeding, the average milk output of crossbred cows of Mola descent was 1,800 kg, and the average output of that of Nili descent was 1,128 kg. The mixed breeds of Mola, Nili, and local buffaloes can yield 1,807 kg. Besides a higher milk output, the pulling strength of these mixed breeds is 18.6 percent and their load-carrying power is 25 to 30 percent higher than that of local breeds.

Major Technical Measures for China To Develop Its Milk Cattle

A. All provinces, municipalities, and autonomous regions have set up their own frozen sperm stations for popularizing artificial insemination and developing the crossbreeding and improvement of milk cows. Generally, approximately 70 percent of the inseminations in one rotation were successful. Adoption of this method can fully utilize oxen of the best breeds for mating without incurring the expenses required for raising them.

B. Besides making full use of natural grasslands for the pasturage of milk cattle, efforts were also made to develop artificial grass planting. In the south, perennial grass, trifolium, bromegrass, Chinese violet and other fine forage grass were planted according to local conditions. In the north, alfalfa, pijiancao [2126 4354 5430], aneurolepidium Chinese, bian-sui-e-quan cao [2078 4482 7708 0385 5430], wheatgrass, awn of wheat, shadawang [3097 2092 2489], and other fine forage grasses were planted to increase the productive power and the capacity of the grasslands to feed animals. In Chengbu County of Hunan, the Hanshan Demonstrational Pasture lost money every year before 1979 in raising milk cows and beef cattle. In 1980, it began to sow seeds over 8,400 mu for fine forage grass, mainly perennial rye grass and trifolium and the per-mu output was 6,000 jin. With the scientific method of rotational herding, each 15 mu of grassland was sufficient to raise 1 cow for both milk and beef. The losses were turned into profits which amounted to 40,000 yuan in 1982.

While implementing the system of responsibility for production in some herding or semiherding areas, the grasslands were divided up to be assigned to the specialized households or production teams. These specialized households or production teams were to work out overall plans for their preservation, utilization, and construction and to bring into full play their productive power so that the milk cattle could be raised well. Alatan Deligeng and four other herdsmen of the third production team of Yintala Brigade, Yintala Commune, Bairin Right Banner, Nei Monggol, raised 400 yuan of their own money and borrowed 1,000 yuan to enclose 131 mu of grass plot for both grain crops and forage grass. They planted Chinese violet, alfalfa, and melilotus in addition to 30 mu of broomcorn millet. In the autumn of the same year, they cut 18,000 jin of forage grass and reaped 3,000 jin of broomcorn millet. Thus within 1 year, their shortage of forage grass and fodders was turned into surplus. The per capita income was raised from 70 yuan to 123.2 yuan, and their loan of 1,000 yuan was redeemed. This was really a new way of building pastures, and in 1982, the banner used these four households as a model and sowed 47,830 mu of grass plots, thus promoting the development of animal husbandry.

In order that the milk cattle may have a high milk output, many localities have popularized the planting of ensiling corns which is best for cows ready to be milked. The leaves and ears can be shredded together and stored to be used for feeding milk cattle through the winter.

C. The fodder resources in various localities were fully utilized to develop milk cattle raising. In our agricultural areas, there are various types of plant stalks, vines, and rice dregs which are all good feeds for milk cattle. In the mountains, tree leaves can also be used to feed goats. In Anda County, people used about 30 tons of leaves, stalks and roots of sugar beets, and other plants for feeding milk cattle. Many localities have popularized formula feeds, and worked out different scientific formulas for the milk cattle at different stages of their growth, so as to make full use of their productive power.

D. To further promote the breeding of milk cattle, many areas have formed joint ventures for milk cow production and for the processing and sales of animal products. These joint ventures often take the form of livestock, industrial, and commercial integrated complexes. The milk cow farm of Harbin, and the Hongmei Livestock, Industrial and Commercial Integrated Complex of Anda County in Heilonjiang, the Zoige Livestock, Industrial and Commercial Integrated Complex in Sichuan, are all socialist economic organizations of a new type. The integrated enterprises are no longer selling raw materials alone as the former milk-producing units did. Their profits from processing have enabled the producers to obtain real economic benefits with which to further develop their milk cow breeding.

Carefully Attend to the Improvement of Domestic Animals

The nationwide improvement of sheep which began in 1979, continued for 4 consecutive years. In 1982, the number of fine-wool and medium-wool sheep that had been improved totaled 37.8 million head, an increase of more than 470,000

head, or 1.3 percent, over 1979, and an increase of 8.46 million over the 30.01 million, or 28.2 percent, over 1978. The number of milk cows of fine or improved breeds was increased to 817,000 in 1982, an increase of 119,000 head, or 17 percent, over 1971. According to incomplete statistics of Heilongjiang and Nei Monggol in 1982, frozen sperm of a sufficient quantity for 1.76 million head was produced and 780,000 head of cows, 6.78 million head of sheep and 80,000 horses were improved for mating with advanced methods. In Hebei, cows of the original native breed were selected in large numbers for crossbreeding or improved breeding. The proportion of successful insemination with frozen sperm on cows reached 67 percent. In 50 counties of Guizhou, the work of improving cows was carried out in 326 locations.

Many localities have set up and strengthened the establishments for improving their domestic animals. According to incomplete statistics, more than 10,000 stud animal farms and domestic animal improvement stations (including breeding stations and frozen-sperm stations) have been set up to form a network for the improvement of domestic animals, including cows, horses and sheep of low fecundity, and the popularization of artificial insemination. In the counties (and banners) of more than 10 provinces and autonomous regions, including Heilongjiang, Nei Monggol, Xinjiang, Qinghai, Gansu, Ningxia, Sichuan, and Guizhou, most of these establishments have been consolidated and staffed with specialized personnel. At present, there are 8 prefectures and 89 counties in Sichuan having set up stations for improving the breeding of animals and fowls and increasing the fine breeds.

In 1982, the system of responsibility for technical services with the improvement of domestic animals as the central task was introduced in some localities. Bairin Right Banner of the Ju Ud League, Nei Monggol, signed 213 contracts on the improvement of cows, including the mating of 15,584 cows; 48 contracts on the improvement of sheep, including the mating of 13,000 ewes; and 4 contracts on the improvement of horses, including the mating of 540 mares. The work of contracting took different forms according to local conditions and no arbitrary uniformity was imposed. The cadres and people were guided in setting up rational standards for production and technology and the suitable proportions of rewards and punishments. The system of contracting for technical service has accelerated the improvement of domestic animals. In Bairin Right Banner, the number of centers for the thawing of frozen sperm was increased from 23 in 1981 to 78 and the number of sperm-transfusion centers was increased from 93 to 204 in 1982. The cows in two communes were completely improved, and the number of improved cows was 2.9-fold that of 1981.

The restoration and development of stud animal households are among the major features in the work of domestic animal improvement. The number of households raising large stud domestic animals in Gansu has been increased from 4,571 in the beginning of the year to 6,647, and 8,056 head of stud animals were owned by them. In the province, a total of 699,900 large domestic animals were mated. In readjusting the mating network, providing convenience to the households raising female animals and saving the expenses of state-run stations, the households raising stud animals have played a very active role and become an important force in the improvement of domestic animals.

In Jiangsu, counties serve as the units in the unified supply of pig sperm of fine breeds. There are now 35 such counties and 40,000 sows have been given sperm. Because of the popularization of fecund breeds, 8 million piglets can be born each year, according to the calculation that 20 piglets from 1 sow can survive. This has a strong impact on the improvement of breeds. In Suzhou Prefecture, pig-breeding systems have been set up at the county, commune, and brigade levels. There are now 8 stud breed-pig farms and 184 commune pig farms. Artificial insemination has been popularized with improved crossbreeding for commodity pigs. The crossbreeding of pigs has greatly shortened the fattening period and increased the maturity rate. The fattening period of crossbred pigs is generally 1.5 to 2 months shorter than that of native breeds. In Suzhou Prefecture of Jiangsu and the Dongting Hu area of Hunan, more than 90 percent of the commodity pigs are hybrids. The maturity rate of pigs has reached 125 percent in Suzhou Prefecture and exceeded 80 percent in Zhejiang, Jiangsu, Beijing and Shanghai. In the past 1 or 2 years, the scientific research departments of many regions have used boars of the lean-meat type for crossbreeding with native sows and have succeeded in raising the lean-meat percentage of commodity pigs. In Beijing, large white pigs, long white pigs or Duroc pigs were used in mixed breeding. The proportion of their lean meat reached 57 percent.

In 1982, the breeding of chickens of fine strains was rapidly popularized. Huada Livestock, Industrial, and Commercial Integrated Enterprise of Beijing produced 3,404,000 female chicks of a distinguished breed in that year, and the annual plan was overfulfilled by 36.2 percent, an increase of 25.8 percent over 1981. Because of the large increase in output, its capacity to supply fine chicks to the society has been markedly increased. In 1982, in addition to what was required by the enterprise itself, 1,696,000 of them, 49.7 percent of the total output and an increase of 419,000 over the previous year, were supplied to more than 10 provinces besides Beijing itself. In Xianyang Prefecture, Shaanxi, leghorn chickens were raised all over the prefecture and in 1982, the people increased their income by 5.75 million yuan from raising chickens of fine breeds.

Surveys on the varieties and resources of cattle and fowls are the basic work in breeding fine varieties. Thanks to the attention and support of the leading departments at various levels, resources in the fields of scientific research, education, and production have been organized for joint surveys to be carried out across provincial boundaries. Initial success has been achieved for the supply of scientific data in the classification of fowl and cattle and the preservation and utilization of their resources.

To further consolidate the system of popularizing fine breeds of cattle and fowl, we must further improve and popularize the varieties, systematically sum up our past and present experiences, discover the laws of scientific development, and continue to improve our domestic cattle.

Develop the Production of Carpet Wool

Carpet is a high-grade traditional export commodity of China. Development of carpet production can help expand our foreign trade market and bring in more foreign exchange to support our socialist construction. China has rich labor resources and the advantage of developing the production of handmade carpets. In producing 10,000 m² of carpets with the clipping and cutting method, 150 tons of coarse wool from native sheep is used. The cost is 480,000 yuan. After processing, the production cost of the factory will be 1.8 million yuan, and the amount of taxes paid and profits delivered will be 780,000 yuan. The foreign trade department will purchase it for 2.58 million yuan which can be converted into approximately \$1 million. Thus, on the average, 2.5 yuan's worth of product can earn \$1 in foreign exchange. In addition, 1,000 persons would be employed and there would be an income of more than 300,000 yuan in processing of sideline products.

The main problem in developing carpet production is the shortage of wool from sheep of fine native breed. In the past several years, the carpet produced and exported increased progressively at the rate of approximately 10 percent each year, while the amount of good-quality wool to be made into carpet remained unchanged. The main reasons why the production of carpet cannot meet the demand are as follows:

1. The per-unit wool output and the procurement price are both low; so too is the income of the producers. In Shandong, for example, the wool from native sheep is coarse and highly elastic. It is an ideal raw material for carpet, and yet the procurement price is only 1.47 yuan per jin. Each native sheep can produce only 2 to 3 jin of wool each year, and the income from this source can only be 4 to 5 yuan. However, each improved sheep can produce 7 to 8 jin of wool each year, and the average price is 2.21 yuan per jin. The annual income will then be 15 to 18 yuan. In Hetian, Xinjiang, each sheep can produce 2.38 jin of carpet wool, and the price per jin is 1.5 yuan, yielding an annual income of 3.57 yuan. For this reason, all areas where conditions permit are keen on improving the breed of their sheep, and unwilling to raise sheep to produce carpet wool.

2. The scientific standards of feeding and management are low. Some sheep are grazing in mixed flocks and inbreeding is common. As a result, the pasture, the feeds, and the breeds have all degenerated, and the per-unit wool output has dropped.

3. The tools of sheep-shearing are backward, since most herdsmen are doing the shearing manually. On each sheep, 2 or 3 liang of stubble are left, and this stubble would naturally fall off when new wool grows.

The basic way to solve the problem of carpet wool shortage is to develop wool production in the country. This calls for a common effort of the departments concerned and the adoption of effective measures.

A. We must improve management and feeding, practice scientific sheep raising, popularize the use of selected native breeds, and raise the per-unit wool

output. There are 70 million native sheep in China. If management and feeding are improved along with the popularization of selected native breeds, much can be done to raise wool output. According to the experiments conducted in Qinghai, wool output from selected native sheep is generally increased by about 0.2 kg and has better quality.

B. Carpet-wool bases should be set up. In Xinjiang, Qinghai, Gansu, Ningxia, Nei Monggol, and Sichuan, the areas producing wool of a better quality have been selected for this purpose. The departments concerned in Xinjiang Autonomous Region have decided to implement and popularize 8 initial technical measures in 12 carpet-wool bases in the next 3 years: classify the herd into different groups according to sex and fecundity grades; artificial insemination, including private animals, mating in autumn and giving birth in spring; improving all stud sheep including the rams used for testing the heat of ewes, and the elimination of rams of inferior breeds; working out plans of matching and popularizing the technology of selecting matching partners; disinfecting bath for all sheep; shredding, alkalizing, and ensiling of plant stalks and long grasses; solution of the problem of drinking water for people and cattle; and strengthening lambing sheds and enclosures. Efforts should also be made to complete the following five readjustments, namely, readjustments of the structure of sheep herds, of the distribution of sheep farms, of the structure of varieties, of the layout for agricultural and livestock production, and of the rotation of crops in agricultural areas, forestry networks, and forage grass fields.

As to the funds required for building these bases, the state should give the necessary support, and the saleprice of carpet wool should be increased by 5 to 8 percent so that funds from this source could be used to finance construction.

C. The grades of coarse wool for making carpets and the prices of their procurement should be standardized and publicized. The procurement price of carpet wool should be appropriately raised, and the arbitrary downgrading and price reduction must be strictly forbidden. Higher prices must be set for high-quality wool so as to encourage increased output of fine-quality carpet wool.

D. The departments concerned must continue to organize the production of fine-quality, low-price, and practical shears and other tools and equipment, and continue the research for their improvement.

E. Efforts must be made to form such organizations as carpet wool associations and breeding committees.

F. The foreign exchange earnings from carpets should be shared in such a way as to meet the needs of promoting production in the areas producing carpet wool.

Remarkable Success in Improvement of Sheep

Sheep production has undergone great development in China since the founding of the People's Republic, and the production and procurement of wool have also remarkably increased. In 1982, compared with 1950, the number of sheep in inventory was increased from 28.52 million head, to 106,568,000, a 2.7-fold increase. Wool output was increased from some 70 million jin to 400 million jin, a 4.8-fold increase, while the amount of procurement was increased from some 67 million jin to 350 million jin, a 4.2-fold increase.

Technology for the improvement of sheep began in China in the 1950's. Each year, the state allocated a certain sum for operating expenses and organized the scientific research units concerned (including the stud sheep farms, state animal farms, people's communes, and agricultural colleges) to cooperate in developing the artificial insemination of sheep. Fine stud sheep were also imported from foreign countries for breeding in the country and continued efforts in selective breeding have improved their reproductive functions. We have achieved notable success after many years of effort, and at the end of 1982, we had 37.8 million sheep of fine wool, medium wool, and improved breeds, 35.5 percent of the total number in inventory, while the output of improved wool reached 260 million jin, about 64.5 percent of total wool output. The average output per improved sheep was 6.9 jin, a 2.5-fold increase over that of native sheep, and each jin of improved wool was worth 2.2 yuan, (while the wool of native sheep was only 1.5 yuan per jin). Thus, the income from a single improved sheep would amount to more than 15 yuan, while that from a native sheep would be only 3 yuan.

The large-scale improvement of sheep began with the development of fine-wool sheep breeding. Fine wool is the basic raw material for woolen fabrics. To end our reliance on imported fine wool after the liberation, artificial insemination was developed in the pastures of the north which were suitable for the propagation of fine-wool sheep. Mating and propagation were carried out area by area and the work continued to improve along with the expansion of the area of improvement. After these developments, we have 24,811,000 head of fine-wool and improved sheep, with a wool output of 178 million jin. Thus, our textile industry was about 80 percent self-sufficient in fine wool, and a material foundation was laid for the development of our textile industry through self-reliance.

Fine wool is the basic raw material of textile yarns and industrial woolen fabrics. In the early post-liberation period, China had only medium wool from a very small number of Corriedale sheep of poor quality, and there was basically no such wool for the woolen textile industry. Since the mid-1960's, we gradually imported from Australia and New Zealand a number of Luo-mu-ni [5012 1191 1441] sheep, Frontier Lancaster sheep, Corriedale sheep, Lincoln sheep and other stud sheep and ewes of medium wool to be used for crossbreeding and improvement. In productive value, the improved sheep are far superior to the native breeds with respect to body weight, wool output, the length and fineness of wool, and the piliferous uniformity. According to the statistics of the Wuke breeding farm in Liangshan Autonomous Prefecture, Sichuan, as a result of the mixture of Frontier Lancaster sheep of medium wool, Xinjiang

sheep of fine wool and Xizang sheep of coarse wool in crossbreeding, the ewe, as the offspring, would have an average wool output of 6.72 jin, 4.76 jin more than the 1.96 jin output of Xizang ewes, a 2.43-fold increase. The average length of the hybrid wool is 9.59 mm, 3.57 mm longer than the 6.02 mm of either Xinjiang or Xizang sheep, a 59.3 percent increase.

Although the production and procurement of sheep in China have been fairly greatly developed, they are still inadequate for our people. The source of wool is insufficient mainly because the percentage of clean wool is low. The proportion of clean wool of Xinjiang sheep of fine wool is about 45 percent, and that of Northwest sheep of fine wool is only 30 percent. Based on an average of 42 percent, the amount to be actually used in the woolen textile industry can only be about 150 million jin. In recent years, along with the development of the woolen textile industry, our wool resources are insufficient for our industrial production. Therefore, we must further improve the sheep to produce more fine and medium wool in order to produce more good carpets. In the future, we must procure wool according to the percentage of clean wool. While carefully attending to the improvement of sheep, we must also take good care of the grasslands in pastoral regions, strengthen preventive measures against natural disasters, and strive for large increases in the production of sheep and wool.

Run Fodder-Seed Farms Well

The use of fine-quality, high-yield fodder seeds to build grasslands and to improve the grassy mountains is an important aspect of China's livestock modernization. In the past several years, many provinces, municipalities, and autonomous regions, and the Animal Husbandry Bureau of the Ministry of Agriculture, Animal Husbandry, and Fishery have at different stages set up a number of fodder-seed breeding bases in our herding areas. By the end of 1982, about 60 state-run, or joint state-commune seed farms had been set up. The area of these farms totals more than 400,000 mu, and the annual output is nearly 5 million jin. This is a strong support to grassland expansion, grassy mountain improvement, and the development of aerial seeding. The major types of fodder seeds being produced are: Chinese violet, alfalfa, shadawang, awn of wheat, pigancao, aneurolepidium Chinese, and ai-zhu-hua-cao [4253 2691 5363 5430]. The seeds which can be supplied in small quantities to the production units are white trifolium, red trifolium, small-crown flower, awnless wheat, perennial rye grass, Italian rye grass, broadleaf paspalum thunbergia, and alkaline cogongrass.

The system of fodder-seed farm management mainly takes the following forms:

- A. The characteristics of state-run fodder-seed breeding farms and the broad scope of production, the high level of mechanization and the convenience of centralized management. Examples of this are the Burqin Seed Farm of Xinjiang Autonomous Region, the Bairin Right Banner Seed Farm of Nei Monggol, the Fuyu Seed Farm of Heilongjiang, the Baicheng Seed Farm of Jilin, and the Fusui Seed Farm of Guangxi Zhuang Autonomous Region.

B. The production of fodder seeds can be undertaken by the state animal farms or stud animal farms concurrently. The greatest advantage of this is that it is good for the utilization of stalks after the selection and processing of seeds, for the combined production of fodder seeds and animal products, and for the reduction of production costs with better economic results. That is why this form of management has developed rapidly. Examples of this are the Tongde pasture of Qinghai, the fodder-seed farm of Suixian and the Ningling County Pasture in Henan, and Huarong Pasture of Hunan, the Qihe Pasture of Shandong, the Guertu Pasture of Usu in Xinjiang, and so forth.

C. In the joint state-commune fodder-seed breeding farms, generally the collectives supply the land and labor while the state provides appropriate economic support. This form of cooperation helps arouse the workers' enthusiasm in production and brings into play the superiority of the state and collective sectors of the economy. For example, Lintian Fodder-Seed Farm of Heilongjiang and Aohan Banner Fodder-Seed Farm of Nei Monggol have both shown fairly good results.

Another common form is that of contracting between the county grassland station or the veterinary station, on the one hand, and the fodder-seed specialized households, on the other, for the unified organization of seed production and marketing according to state plans. The best advantage here is that it can increase the people's income without spending much state money. This is how the seed fodder base of Zhaoyuan County, Heilongjiang, Jianping County of Liaoning, Hengshui Prefecture of Hebei and Minqian County of Henan are producing shadawang seeds.

Since the production of fodder seeds in China is just beginning, many urgent problems in the operation and management of seed breeding farms are waiting to be solved. The more outstanding ones are as follows: In some state-run farms, the problem of "eating from the same pot" and "holding iron rice bowls" is still serious. Furthermore, because of the excess of nonproductive personnel and the lack of any scientific system of management, only one single line of product is being produced. This has led to low seed output and high production cost. The techniques of harvesting, processing, and seed washing are backward, the productivity is low, and the quality poor. In the absence of a scientific and comprehensive system of fodder-seed production, the distribution of varieties and planning for breeding are fairly chaotic. Since there is as yet no national agency for resolving the contradiction between production and marketing, production in some seed-breeding farms is not coordinated with marketing.

To further increase the productive capacity of the existing fodder-seed breeding farms, we must in future conscientiously implement the system of responsibility for production in various forms, improve the various rules and regulations, reduce the number of nonproductive personnel, strive to reduce production cost, and use various types of funds to the best advantage in order to further improve operation and management as a contribution to the acceleration of animal husbandry development.

Develop Compound Feeds, Improve Economic Results

In the past several years, people in the countryside have popularized the use of compound and mixed feeds and gradually changed the backward form of feeding animals with a single grain feed. As we can see from practice, the use of mixed feeds can generally reduce grain consumption by 15 to 20 percent, shorten the feeding period by 50 to 60 days, and reduce cost by 20 percent. Some commune members in certain localities have even prepared their own mixed feeds with good economic results. In 1981, Yiyang Prefecture of Hunan conducted a survey on 6 pig farms and 468 peasants who raised a total of 1,329 head of pigs. Among these pigs, 792 were given mixed feeds, and 537 head were given only grain feeds. For every jin of increase in weight with the use of mixed feeds, as against grain feeds, concentrated feeds can be reduced by 15.6 percent; roughage, 33 percent; green fodders, 36 percent; and feeding expenses, 20 percent. Based on the total number of pigs removed from inventory in Hunan in 1981, namely, 17.5 million head, changing from grain feeds to mixed feeds will result in the following savings: 1.3 billion jin of concentrated feeds, 3.1 billion jin of roughage, more than 3 billion jin of green fodders, and 260 million yuan of feeding expenses. Qingpu County of Shanghai Municipality replaced the traditional grain feeds with mixed feeds, and the consumption of feed continued to drop in 3 consecutive years. In 1980, compared with 1978, the feed for each pig was reduced from 550 jin to 475 jin, a 13.6 percent reduction. Based on the number of pigs sold, namely, 340,000 head, the savings were 25.5 million jin of feed and more than 3 million yuan of feeding expenses. The return for investment in feeds was raised by 10 to 15 percent, and the fattening period was shortened by 2 to 3 months. More than 100 million pigs were sold in the country in the past several years. Based on the standards of Qingpu County, about 10 billion jin of grain feed and 1.1 billion yuan of feeding expenses can be saved. The nutrition from compound feed is even more comprehensive. Generally, the protein content is increased from 20 to 30 grams per kg/day of the old rural feeding method to 100 to 130 grams, the ratio between energy and protein becomes more rational, the necessary amino acid is balanced, and the coarse-fiber content is correspondingly lowered. This is helpful to the digestion, absorption, and utilization of the feed and more suitable for the growth of cattle and fowl. Compound feeds and mixed feeds are now welcomed by more and more feeding units and individuals. According to incomplete statistics, there are more than 3,500 animal feed factories of various sizes in the country with a combined productive capacity of more than 5.1 million tons. However, most of the products are still simple mixed feeds, while compound feeds that are up to the required standards are less than 2 percent.

In popularizing the use of compound and mixed feeds, the following points should be noted:

A. All departments concerned should cooperate closely to build animal-feed factories to produce compound and mixed feeds. In Hunan, the animal husbandry departments provided funds, and the food departments provided raw materials for these factories to be built to promote the development of animal husbandry. Cili County of the province even used the animal-slaughter tax retained by the localities to support the communes and brigades in developing an animal-feed

industry. In Sichuan, some veterinary stations and grain stations, with their own funds and raw materials and through the cooperation of the technical personnel, used their simple equipment and crude worksites to set up small jointly operated animal-feed factories.

B. By bringing into play the strong points of commune- and brigade-run enterprises, we can set up small animal-feed factories to meet the requirements of specialized (priority) households in raising pigs and chickens. According to incomplete statistics, by the end of 1982, the commune- and brigade-run enterprises throughout the country had already set up nearly 3,000 such factories with a productive capacity of 2.6 million tons, more than half of the total national capacity.

C. Proceeding from the local realities, we can utilize the feed resources in an economically rational way. Many localities have gradually made greater use of the resources scattered among the broad masses. In Shanxi and Liaoning, the animal husbandry departments have invested in the building of a silkworm chrysalis powder factory and taken charge of the unified distribution of products. In Zhejiang, 5 counties have established more than 230 commune- and brigade-run enterprises for processing fishmeal. In Sichuan, some slaughterhouses have run collective workshops to produce dried blood. Through various channels, we can make up for the shortage of protein in some feeds. In Shanghai, for example, the animal husbandry research institute has designed formulas for the use of dregs from cotton and vegetable seeds in varying proportions for making cakes as feeds. In the combination of these cakes with bean cakes, the amino acid content is generally balanced, and the feeds are more nutritous.

D. We should make timely readjustments and changes in the feed formulas and pay attention to nutritious effects as well as economic results. In accordance with the standards of feeding, the evaluation of the feeds' nutritious value, and the needs of cattle and fowl for nourishment, many localities have compiled their own formulas that are suitable for local needs to ensure the supply of adequate nourishment and the reduction of feeding cost. In Taiyuan, Shanxi, according to the formula of a pig farm, the cost of feeds can be lowered by 5 to 9 percent without lowering the content of protein or affecting the power of digestion, even though the ingredients and their proportions are readjusted to suit local prices. The total national productive capacity is 5.1 million tons. If the cost of each jin of compound or mixed feeds can be reduced by 1 cent, the total cost of feeds can be lowered by more than 10 million yuan.

In order that compound feeds may produce their full effects, many localities have paid attention to other related factors. According to the result of experiments conducted by the Jiangxi Provincial Animal Husbandry Research Institute, other components being equal, the use of maize instead of rice in pig feeds can produce better economic results. The weight will be increased by 12.4 percent, while the feeds and expenses will be reduced by 13.8 percent and 4.5 percent, respectively. Similarly, different cattle and fowl, even given the same compound feeds, may absorb the nourishment quite differently. According to a test conducted by the Xiangxi Autonomous

Prefecture of Hunan, in the same environment and under the same feeding conditions, three types of hybrid pigs, compared with native pigs, consumed one-third less feed and feeding expenses can be reduced 22 percent for per-jin weight increase.

E. The animal-feed factories have adopted various flexible forms of service for the convenience of people. The animal-feed factory of Chongshan Commune in Shaoyang City, Hunan, offers "four types of service": processing compound and mixed feeds to be sold to the pig-raising households; acting as agent for the state-run animal-feed factories in distributing mixed feeds to pig-raising households; processing mixed feeds with materials supplied by the pig-raising households; and teaching people how to use compound and mixed feeds. The veterinary station of Lidu Commune in Jinxian County, Jiangxi, has set up a small animal-feed factory to process condensed feeds which people call "nourishment powder." After buying them, the commune members added in some grain furfural and other energy feed according to the formula. Then they can bring what they have bought basically up to the standards of the compound feed and save 60 to 70 percent of the expenses in transporting the raw materials to and fro. This service is warmly welcomed by the broad masses.

High Output, Good Economic Results (1982)

High Output

Counties With Highest Per-Mu Grain Output

Unit: jin

Provinces, municipalities, and autonomous regions	Counties (cities, banners, districts)	Per-mu output Calculated according to sown area	Calculated according to farmland area
Beijing	Shunyi	922	
	Huairao	875	
	Haiding	863	
Tianjin	Jixian	450	670
	Luancheng		1,251
Hebei	Wuji		1,238
	Gaocheng		1,226
	Haoma	516	892
Shanxi	Dingxiang	705	780
	Chiefeng	544	
	Dawa	1,116	1,206
Nei Monggol	Yingkou	955	1,057
	Siping	338	740
Liaoning	Lanzi	683	1,679
	Baoshan		1,671
Jilin	Nanhui	724	
	Songjiang	819	
Heilongjiang	Jianhu	1,657	
	Qingjiang	1,544	
	Shazhou	1,967	
Shanghai	Jiaojiang	795	1,854
	Huangyan	818	
Jiangsu	Wenzhou	832	1,481
	Hanshan	646	1,448
	Tongcheng	843	1,358
Zhejiang	Tianchang	1,575	
	Longhai	1,544	
	Fuzhou	1,495	
Fujian	Yunxiao	700	1,380
	Pingxiang	634	1,295
	Guangfeng	678	1,251
Jiangxi	Nancheng	743	1,258
	Mengyin	674	1,139
	Laiwu	642	1,137
Shandong	Rizhao	589	
	Xinxiang	751	1,286
Henan	Xishui		
Hubei			

[continued]

[Continuation of Counties With Highest Per-Mu Grain Output]

Provinces, municipalities, and autonomous regions	Counties (cities, banners, districts)	Per-mu output Calculated according to sown area	Calculated according to farmland area
Hubei	Jingmen	701	1,011
	Dawu	715	1,007
Hunan	Liling	844	1,568
	Ningxiang	737	1,453
Guangdong	Shuangfeng	705	1,410
	Chaozhou	815	2,051
	Chaoyang	769	1,811
Guangxi	Chenghai	804	1,770
	Beiliu	756	
Sichuan	Rongxian	722	
	Wenjiang	866	
	Pixiang	830	
Guizhou	Xindu	799	
	Yuping	569	1,082
	Duyun	588	1,035
Yunnan	Liping	736	1,030
	Jiangchuan	764	
Xizang	Yuxi	733	
	Naidong	626.5	
	Gyangze	524	
Shaanxi	Gaoling		1,195
	Hanzhong		1,158
	Hanyang		1,106
Gansu	Linze	773	867
	Gaotai	747	789
Qinghai	Guide	613	
	Xunhua	507	
Ningxia	Wizhong	777	1,012
	Miquan	612	614

Counties With Highest Per-Mu Cotton Output

Unit: jin

Provinces, municipalities, and autonomous regions	Counties (cities, banners, districts)	Per-mu cotton output	Remarks	Provinces, municipalities, and autonomous regions	Counties (cities, banners, districts)	Per-mu cotton output	Remarks
Beijing	Tongxian	79		Anhui	Dongzhi	121	
Tianjin	Ninghe	78		Jiangxi	Jiujiang	176	
Hebei	Guan	154			Pengxe	162	
	Langfang	135			Yongxiu	132	
	Guantao	125		Shandong	Dezhou	153	
Shanxi	Hejin	120			Pingyuan	137	
	Xiaxian	118			Wenshang	134	
	Yongji	117		Henan	Xinxiang	154	
Liaoning	Liaoyang (city)	135			Fugou	123	
	Liaoyang	122			Boai	106	
	Harqin Left	112		Hubei	Guangji	171	
Shanghai	Nanhui	146			Xinzhou	136	
	Songjiang	136			Huanggang	130	
	Jinshan	119		Hunan	Hengyang (county)	96	
Jiangsu	Peixian	168		Guangxi	Zhaoping	150	
	Dongtai	151		Sichuan	Nanbu	133	
	Rudong	147			Xichong	112	
Zhejiang	Xiaoshan	171			Shehong	104	
	Jinhua	129		Shaanxi	Dali	108	
	Lanxi	126		Gansu	Dunhaung	124	
Anhui	Sixian	128		Xinjiang	Turpan	106	
	Wanjiang	122			Toksun	105	

Counties With Highest Plant-Oil Output

Unit: jin

Provinces, municipalities, and autonomous regions	Counties (cities, banners, districts)	Per-mu plant-oil output	Remarks	Provinces, municipalities, and autonomous regions	Counties (cities, banners, districts)	Per-mu plant-oil output	Remarks
Beijing	Miyun	221		Shandong	Jixian	412	
Tianjin	Wuqing	174		Henan	Linru	186	
Hebei	Huaian	265		Hubei	Guangji	310	
	Xinle	257			Hongan	240	
	Gaocheng	245			Enshi	220	
Shanxi	Zuoquan	542		Hunan	Fengxian	191	
	Qinyuan	487		Guangdong	Chaozhou	387	
	Wutai	455			Foshan	342	
Liaoning	Donggou	273			Chenghai	329	
	Qingyuan	267		Guangxi	Pingguo	210	
Heilongjiang	Gannan	463			Lingshan	206	
	Linkou	431			Yulin	205	
	Mishan	394		Sichuan	Pengxi	548	
Shanghai	Nanhui	457			Luxian	399	
	Jinshan	343			Suining	380	
Jiangsu	Haimen	465		Guizhou	Zunyi	304	
	Ganyu	406			Sinan	236	
	Jianhu	395			Duiyun	234	
Zhejiang	Pinghu	269		Yunnan	Nandong	682	
	Zhenhai	269			Yunxian	471	
	Jiashan	268			Xiaguan	366	
Anhui	HaNshan	360		Xizang	Naidong	287	
	Tianchang	355			Qonggyai	258	
	Quanjiac	330			Langxian	211	
Fujian	Tongan	332		Shaanxi	Mianxian	294	
	Huaan	307			Fufeng	266	
	Zhangzhou	301			Hanzhong	258	
Shandong	Rizhao	459		Qinghai	Qilian	203	
	Junan	425		Ningxia	Taole	202.5	

Counties With Largest Afforested Area Per Person

Unit: mu/person

Provinces, municipalities, autonomous regions	Counties (cities, banners, districts)	Afforested area Calculated according to county population	Calculated according to agricultural popu- lation of county
Beijing	Mentougou		0.46
Tianjin	Jixian	0.06	0.07
Hebei	Chicheng		0.74
	Fuping		0.72
	Fengning		0.70
Shanxi	Youyu	2.68	2.93
	Daning	1.39	1.58
	Xixian	1.14	1.32
Nei Monggol	Jungar	4.5	
	Uxin	4.2	
	Dongsheng	2.7	
Liaoning	Benxi		0.59
	Kuandian		0.52
	Jianping		0.50
Jilin	Jian	0.40	0.51
	Wangqing	0.37	0.63
Heilongjiang	Muling	0.47	
Jiangsu	Yixing		0.51
	Liyang		0.46
	Lishui		0.46
Zhejiang	Kaihua	0.18	0.20
Anhui	Jinde	0.53	0.61
Fujian	Zherong	0.38	
Shandong	Wulian	0.12	0.13
Henan	Xixia	0.56	0.59
	Lushi	0.46	0.48
Hubei	Xingshan	0.93	1.03
	Badong	0.36	0.4
Hunan	Shuangpai	0.38	0.39
Guangdong	Lianshan	0.6	0.72
	Heyuan	0.44	0.5
Guangxi	Tianlin	0.44	0.46
Sichuan	Mouwen	0.51	0.57
Guizhou	Jianhe	0.37	0.39
Yunnan	Fugong	0.58	0.62
	Bijiang	0.54	0.59
Xizang	Bailang	0.07	0.07
	Gyangze	0.04	0.05
Shaanxi	Jingbian	1.44	1.52
	Shenmu	1.17	1.25
	Fugu	1.07	1.16
Gansu	Zhengning	0.29	0.30
Qinghai	Jainca	0.10	0.11
Ningxia	Xiji		0.39
Xinjiang	Shanshan		0.20

Counties With Most Trees Scattered on "Four Sides" Per Person

Provinces, municipalities, autonomous regions	Counties (cities, banners, districts)	Unit: Tree/100 persons	
		Trees scattered on "four sides" Based on total county population	Based on county's agricultural population
Beijing	Mentougou		1,200
	Chengping		1,100
	Huairou		1,000
Tianjin	Beijiao	225	304
Hebei	Xunhua		964
Nei Monggol	Jarud	3,700	
	Xuguit	2,500	
	Aohan	2,400	
Liaoning	Tai'an		1,370
	Chaoyang		1,260
	Jinzhou		1,170
Jilin	Shuangliao	1,601	2,148
	Shaungyang	1,038	1,183
	Shulan	957	1,289
Shanghai	Qingbu	1,310	1,560
	Fengxian	1,060	1,260
	Chongming		1,130
Jiangsu	Jiangdu		4,800
	Jianhu		4,600
	Quzhou	592	686
Anhui	Tianchang	940	1,020
Fujian	Changtai	432	
Shandong	Jiyang	1,050	1,090
	Lingxian	660	680
	Juancheng	620	650
Henan	Zhezhou	855	886
Hubei	Yingshan	1,970	2,084
	Luotian	1,845	1,956
	Guanghua	1,845	1,905
Hunan	Linfeng	1,227	1,290
	Changde (county)	1,135	1,212
	Taoyuan	1,112	1,179
Guangxi	Pingxian	294	361
Guizhou	Yuqing	1,550	1,630
Yunnan	Luliang	1,320	1,400
	Qujing	967	1,200
	Gejiu		1,160
Xizang	Gyangze	3,000	3,300
Shaanxi	Langao	3,130	3,330
	Ziyang	2,660	2,880
	Hanyin	2,140	2,290
Gansu	Dunhuang	3,480	4,080
	Jinta	3,010	3,200

[continued]

[Continuation of Counties With Most Trees Scattered on "Four Sides" Per Person]

Unit: Tree/100 persons

Provinces, municipalities, autonomous regions	Counties (cities, banners, districts)	Trees scattered on "four sides" Based on total county population	Based on county's agricultural population
Qinghai	Pingan	1,240	1,440
	Huangyuan		1,310
	Hualong	1,250	
Ningxia	Longde		2,290
	Yutian		3,100
	Zepu		2,500
Xinjiang	Yupurga		2,300

Counties With Most Large Animals (Yearend Inventory Number)

Unit: Head/100 persons

Provinces, municipalities, autonomous regions	Counties (cities, banners, districts)	Large animal kept Based on county population	Based on county's agricultural population
Beijing	Yanqing	11	13
Tianjin	Dagang		8
Hebei	Fengning		31
	Guyuan		28
	Weichang		25
Shanxi	Youyu	27	29
	Anze	23	26
	Heshun	22	24
Nei Monggol	Sonid Left	500	
	Alxa Right	400	
	Dong Ujimqin	330	
Liaoning	Zhangwu	17	20
Jilin	Tongyu	52	67
	Zhenlai	30	38
	Qianan	26	31
Heilongjiang	Dumeng		40
	Jiayin		22
	Anda		21
Anhui	Mengcheng	18	19
Fujian	Pinghe	19	
Shandong	Linyi	10	11
	Wucheng	10	11
	Gaotang	10	11
Henan	Zhengyang	19	20
Hubei	Nanzhang	15	17
Hunan	Xinning	16	17
Guangdong	Qiongzhong	17	35
	Dongfang	23	31
	Baisha	14	26
Guangxi	Xilin	35	37
	Tianlin	34	35
	Longlin	33	34
Sichuan	Hongyuan	1,090	1,470
	Seda	940	1,100
Guizhou	Ceheng	30	40
	Maijiang	20	30
	Dushan	20	30
Yunnan	Deqen	95	105
	Zhongdian	88	103
	Jiangcheng	56	63
Xizang	Anduo	753	885
	Dangxiong	687	741
	Naqu	543	696
Shaanxi	Zhidan	39	41
	Wuqi	35	37
	Linyou	33	35

[continued]

[Continuation of Counties With Most Large Animals (Yearend Inventory Number)]

Unit: Head/100 persons

Provinces, municipalities, autonomous regions	Counties (cities, banners, districts)	Large animal kept Based on county population	Based on county's agricultural population
Gansu	Maqu	1,090	1,260
	Luqu	620	730
Qinghai	Maduo		1,927
	Jiuchi	1,597	1,777
	Qumalai	1,317	1,600
	Taole		40
	Hejing	118	198
	Nilka	113	
	Zhaosu		177

Counties With Most Slaughtered Pigs Per Person

Unit: Head/100 persons

Provinces, municipalities, autonomous regions	Counties (cities, banners, districts)	Pigs slaughtered Based on county population	Based on county's agricultural population
Beijing	Shunyi	89	99
	Tongxian	53	66
	Pinggu	60	65
Tianjin	Jixian	31	35
	Leting		34
Hebei	Qingxu	27	29
Shanxi	Bairin Right	35	
	Kangping	41	49
Nei Monggol	Yingkou	40	48
	Changtu	37	42
	Nongan	38	42
Liaoning	Shuangling	33	44
	Jinshan	93	113
Shanghai	Songjiang	82	101
	Qingpu	83	97
	Wusi (city)	58	91
Jiangsu	Taicang	69	79
	Minshan	67	78
Zhejiang	Jiaxing	81	106
	Pinghu	92	105
	Jiashan	84	99
Anhui	Tianchang	32	35
Fujian	Tongan	36	
Jiangxi	Shanggao		64
	Yiyang		41
Shandong	Wendeng	46	49
	Rongcheng	44	47
	Rushan	39	41
Henan	Wenxian	38	40
Hubei	Dangyang	52	58
	Zhijiang	45	50
	Jianshi	46	48
Hunan	Changsha (county)	51	52
	Xiangxiang	45	46
	Ningxiang	43	44
Guangdong	Foshan	15	61
	Nanhai	40	50
	Chaozhou	10	54
Guangxi	Xingan	29	31
Sichuan	Pixian	72	81
	Wenjiang	69	80
Guizhou	Chishui	30	40
Yunnan	Yuxi	33	38
Xizang	Zayu	30	32
	Bomi	27	29
Shaanxi	Zhenping	29	31
Gansu	Jinta	32	33
Qinghai Ningxia	Dulan	42	59
	Shizuishan		18

Counties With Most Sheep Per Person		Unit: Head/100 persons	
Provinces, municipalities, autonomous regions	Counties (cities, banners, districts)	Sheep raised Based on county population	Based on county's agricultural population
Beijing	Mentougou		34
Tianjin	Jinghai	29	31
Hebei	Guyuan		96
	Fengning		86
	Weichang		76
Shanxi	Kelan	167	183
	Yonghe	142	156
	Guxian	140	152
Nei Monggol	Sonid Left	1,750	
	Xinbarag Right	1,500	
	Xinbarag Left	1,300	
Liaoning	Fuxin	48	53
	Zhangwu	38	44
Jilin	Zhenlai	50	64
	Tongyu	46	59
	Qianan	42	50
Jiangsu	Fengxian	41	43
Zhejiang	Tongxiang	71	80
	Haining	51	59
	Huzhou	47	58
Fujian	Luoyuan	12	
Shandong	Chengwu	44	46
	Jiancheng	43	44
	Yuncheng	37	38
Henan	Jiyuan	43	48
Hubei	Wufeng	47	50
Guangxi	Duan	34	34
Sichuan	Zoige	1,000	1,233
	Shiqu	780	833
Guizhou	Weining	63	65
Yunnan	Deqen	222	247
	Ninglang	135	143
	Huaping	112	122
Xizang	Anduo	3,759	4,418
	Baingoin	4,087	4,288
	Naqu	1,655	2,120
Shaanxi	Zhidan	218	233
	Wuqi	161	174
	Ganguan	150	172
Gansu	Subei	2,280	3,150
	Aksay	1,980	3,200
Qinghai	Madoi	5,081	6,700
	Tianjun		5,836
	Qumarleb	4,887	5,586
Ningxia	Yanchi		395
Xinjiang	Hoboksar	823	1,182
	Wuqia		1,084
	Toli	734	

Counties With Highest Output of Aquatic Products

Unit: Jin/person

Provinces, municipalities, autonomous regions	Counties (cities, banners, districts)	Output of aquatic products Based on county population	Based on county's agricultural population
Tianjin	Tanggu	361.4	419
	Hangu	22.1	59.2
	Xijiao	14.3	18.8
Hebei	Huanghua		224.1
	Luannan		64.8
	Leting		45.4
Liaoning	Changhai	3,805.4	4,539.8
	Jinxian	348.2	467
	Zhuanghe	82	90
Shanghai	Nanhui	36.5	43
	Chongming	33.1	40
	Jinshan	25.9	32
Jiangsu	Lianyungang		776
	Nantong	100	108
	Qidong	86	92
Zhejiang	Shengsi	1,575	
	Putuo	929	
	Daishan	768	
Anhui	Dangtu	12	13.3
Fujian	Pingtan	334	
Jiangxi	Duchang		20
	Yugan		16.6
	Boyang		11.6
Shandong	Changdao	2,250	2,780
	Rongcheng	482	510
	Weihai	244	314
Hubei	Jiayu	30.2	35.1
	Honghu	20.7	24
Hunan	Qidong	21.6	22.7
	Xiangyin	19.8	21.7
	Yueyang	12.3	16.3
Guangdong	Nanao	325	449
	Shunde	162	220
	Foshan		130
Guangxi	Beihai City Suburbs	752.8	1,347.5
	Hebu	54.9	59.6
	Fangcheng	53.1	62.6

Counties With Largest Grain Contribution to the State

Unit: 100 million jin

Provinces, municipalities, autonomous regions	Counties (cities, banners, districts)	State grain contribution	Remarks
Beijing	Shunyi	1.92	
	Tongxian	1.33	
Tianjin	Wuqing	0.79	
Hebei	Gaocheng	1.5	
	Luancheng	1.2	
	Zhaoxian	1.2	
Shanxi	Xinxian	0.81	
Nei Monggol	Tongliao	1.03	
	Arun	1.01	
Liaoning	Changtu	8.57	
	Haicheng	5.09	
	Xinmin	3.99	
Jilin	Huaide	10.7	
	Lishu	9.23	
	Yushu	6.44	
Shanghai	Jinshan	1.88	
	Songjiang	1.87	
	Qingpu	1.57	
Jiangsu	Xinghua	7.24	
	Gaoyou	5.35	
	Wujin	4.89	
Zhejiang	Jiaxing	4.85	"
	Quzhou	3.68	"
	Yinxian	3.26	"
Anhui	Shouxian	3.87	"
	Tianchang	3.8	"
	Huoqiu	3.68	"
Fujian	Longhai	1.94	
	Bucheng	1.75	
	Jianou	1.66	
Jiangxi	Nanchang	2.81	
	Gaoan	2.22	
	Boyang	2.01	
Shandong	Pingdu	2.06	"
	Zhucheng	1.86	"
	Tengxian	1.61	"
Henan	Gushi	2.27	
	Huangchuan	2.22	
	Dengxian	2.14	
Hubei	Jingmen	5.52	
	Suixian	4.25	
	Jiangling	4.06	

[continued]

[Continuation of Counties With Largest Grain Contribution to the State]

Provinces, municipalities, autonomous regions	Counties (cities, banners, districts)	State grain contribution	Remarks
Hunan	Changde (county)	6.17	
	Taoyuan	4.38	
	Ningxiang	3.90	
Guangdong	Dongguan	4.81	
	Panyu	4.38	
	Zhongshan	3.71	
Guangxi	Yongning	1.54	
	Yulin	1.42	
	Guixian	1.29	
Sichuan	Renshou	2.41	
	Luxian	2.40	
	Shuangliu	2.36	
Yunnan	Baoshan	1.01	Calculated according to grain year
Xizang	Gyangze	0.097	
	Xigaze	0.082	
	Qushui	0.064	
Shaanxi	Lintong	1.34	" " "
	Dali	1.27	
	Weinan	1.25	
Gansu	Wuwei	1.77	" " "
	Jiuquan	1.20	
	Zhangye	1.12	
Qinghai	Huzhu	0.36	
Ningxia	Qingtongxia	1.16	
Xinjiang	Yiling	1.06	" " "

Good Economic Results

Counties With Highest GVAO (based on 1980 constant prices)

Unit: Yuan/person

Provinces, municipalities, autonomous regions	Counties (cities, banners, districts)	GVAO (based on county's agricultural population)	Remarks
Beijing	Shijingshan	875	
	Fengtai	831	
	Chaoyang	782	
Tianjin	Xijiao	891	
	Nanjiao	796.9	
	Dongjiao	740.4	
Hebei	Guan	575.4	
	Huanghua	562.4	
	Baoding	548	
Shanxi	Yangquan	685.5	
Nei Mongol	Manzhouli	2,869	
	Chen Barag	1,520	
	Dong Ujimqin	1,382	
Liaoning	Changhai	1,766	
	Jinxian	637	
	Fusong	630	
Jilin	Tumen	600	
	Yanji	590	
	Jiading	1,062	
Shanghai	Baoshan	1,045	
	Shanghai	917	
	Wusi (city)	1,557	
Jiangsu	Taicang	869	
	Wusi (county)	811	
	Putuo	905.7	
Zhejiang	Ningbo	892.5	
	Shengsi	782.9	
	Tianchang	536.2	
Anhui	Quanjiao	465.8	
	Chusian	464.0	
	Changdao	1,412.7	
Shandong	Yantai	872.1	
	Weifang	735.3	
	Xinxiang	521.8	
Henan	Wenxian	427.3	
	Boai	421.8	
	Hanyang	497.0	
Hubei	Jiangling	445.7	
	Dangyang	438.8	
	Linfeng	494.8	
Hunan	Yuanjiang	490	
	Changde (county)	458	

[continued]

[Continuation of Counties With Highest GVAO]

Provinces, municipalities, autonomous regions	Counties (cities, banners, districts)	GVAO (based on county's agricultural population)	Remarks
Guangxi	Beihai	376.8	Based on county population
	Rongxian	335.6	
	Gongcheng	335.3	
Sichuan	Hongyuan	942.6	
	Zoige	714.5	
	Sertar	644.0	
Guizhou	Cenggong	329	
	Wengan	328	
	Yuqing	299	
Xizang	Baingoin	719.3	
	Nagqu	520.4	
Shaanxi	Jingyang	325.8	
	Dali	307.6	
	Gaoling	300.0	
Gansu	Dunhuang	410.1	Agricultural output value
	Jinta	374.6	
Qinghai	Madoi	1,166.4	
	Tongde	749.1	
	Maqen	728.0	
Ningxia	Qingtongxia	458.9	
	Turpan	348.6	

Counties With Most Rapid Increase in GVAO Compared With 1980 (based on 1980 constant prices)

Provinces, municipalities autonomous regions	Counties (cities, banners, districts)	1982 GVAO (10,000 yuan)	1980 GVAO (10,000 yuan)	Increase in 1982 over 1980 in percentage	Remarks
Beijing	Shijingshan	2,318	1,486	56.0	
	Fengtai	15,227	11,577	31.5	
Tianjin	Xijiao	20,100	15,500	29.7	
	Wuqing	35,600	29,700	19.9	
Hebei	Hangu	2,690	2,450	9.8	
	Dingxing	11,041	5,166	113.7	
	Weixian	11,803	5,776	104.3	
Shanxi	Guan	16,921	8,495	99.2	
	Loufan	1,680	979	71.6	
	Shanyin	5,170	3,017.7	71.3	
Nei Monggol	Yingxian	7,286	4,523.9	61.0	
	Chen Barag	3,193.7			
	Taibus	5,722.3			
Liaoning	Liaozhong	17,835	9,682	84.2	
Jilin	Jingyu	4,312	2,159	99.7	
	Yanji	1,830	1,106	65.5	
Shanghai	Huadian	11,900	7,474	59.3	
	Jinshan	33,723	24,393	38.2	
	Shanghai	37,304	27,791	34.2	
Jiangsu	Baoshan	30,223	22,522	34.2	
	Sihong	31,324	17,092	83.3	
	Xuyi	19,172	11,009.6	74.1	
Zhejiang	Lianshui	31,259	20,548	52.1	
	Shaoxing	55,700	37,500	48.8	
	Hangzhou	16,500	11,700	41.0	
Anhui	Xiaoshan	44,700	32,500	37.6	
	Guzhen	18,766	9,583	95.8	
	Changle	16,140	12,203	32.3	

[Continuation of Counties With Most Rapid Increase in GVAO Compared With 1980]

Provinces, municipalities autonomous regions	Counties (cities, banners, districts)	1982 GVAO (10,000 yuan)	1980 GVAO (10,000 yuan)	Increase in 1982 over 1980 in percentage	Remarks
Fujian	Yunxiao	9,782	7,590	28.9	
	Longhai	27,914	22,384	24.7	
Shandong	Yangxin	11,631	5,545	109.7	
	Shanghe	19,778	10,714	84.6	
	Gaotang	21,917	12,020	82.3	
Henan	Shangshui	21,148	14,147	49.5	
	Xiangcheng	19,723	13,756	43.4	
	Zhenping	15,219	10,789	41.1	
Hubei	Gongan	32,143	19,547	64.4	
	Hongan	17,674	11,477	54	
	Yingshan	20,895	13,638	53.2	
Guizhou	Ceheng	3,691	1,989	85.6	
	Puan	3,629	2,042	77.7	
	Majiang	3,959	2,443	62.1	
Xizang	Baingoin	1,519.75	793.14	91.6	
	Nagqu	2,122.3	1,441.11	47.3	
	Xigaze	1,906.5	1,566.19	21.7	
Shaanxi	Chunhua	3,274	1,809	81.0	
	Heyang	9,238	5,421	70.4	
	Changwu	3,162	1,944	62.7	
Gansu	Lingtai	4,317.0	2,938.9	46.9	
	Guanghe	1,618.2	1,200.5	34.8	
Qinghai	Qilian	1,465.1	803.6	82.3	
	Tongde	2,322.3	1,385.0	67.7	
	Guinan	2,419.9	1,463.0	65.4	
Ningxia	Helan	6,008.9	3,215.4	86.9	
Xinjiang	Hetian	6,404	4,038	58.6	
	Bachu	5,286	3,168	40.3	

Counties With Highest Net Income Per Person			Unit: Yuan/person
Provinces, municipalities, autonomous regions	Counties (cities, banners, districts)	Net income (based on county's agricultural population)	Remarks
Beijing	Haiding	613	
	Fengtai	490	
	Chaoyang	462	
Tianjin	Xijiao	375.1	
	Beijiao	335	
	Tanggu	323.3	
Hebei	Baoding	457.1	
	Huolu	392.9	
	Langfang	392.3	
Shanxi	Langquan	425.5	
	Zuoyun	395.9	
	Sonid Left	455	Based on sample survey Data on part of household sideline income obtained from sample survey
Nei Monggol	Wuyuan	419	
	Arun	416	
	Changhai	516	Net household sideline income obtained from sample survey
Liaoning	Huadian	472	
	Hunjiang	451	
	Tumen	447	
Jilin	Baoshan	531	
	Jiading	515	
	Shanghai	513	
Shanghai	Changzhou	446	
	Suzhou	417.8	
	Taicang	407.9	
Jiangsu	Shengsi	496.8	
	Haining	440.5	
	Ningbo	437.1	
Zhejiang	Tianchang	415	
	Chuxian	395	
	Quanjiao	367	
Anhui	Changtai	395.7	
	Yunxiao	383.3	
	Shanggao	390.6	
Fujian	Fengxin	388.2	
	Nanfeng	354.1	
	Pingyuan	378.0	
Jianxi	Jining (city)	372.7	
	Gaotang	337.0	
	Wenxian	219.1	
Shandong	Xinxian	217.5	
	Qixian	215.9	
	Wuchang	342.9	
Henan	Jiayu	342.9	
	Puqi	337.8	

[continued]

[Continuation of Counties With Highest Net Income Per Person]

Provinces, municipalities, autonomous regions	Counties (cities, banners, districts)	Net income (based on county's agricultural population)	Remarks
Hunan	Changde (city)	419	
	Hanshou	342	
	Huarong	326	
Guangdong	Shunde	742	
	Foshan (city suburbs)	681	
	Nanhai	620	
Guangxi	Yongning	165.2	Household sideline income not included
	Qenzhou	161.7	
	Xingan	158.4	
Sichuan	Shifang	380.7	Based on sample survey
	Ningnan	361.6	
Guizhou	Kaiyang	252	
	Zunyi	238	
	Meitan	227	
Yunnan	Yuxi	327	
	Tonghai	311	
Xizang	Gyangze	338.6	
	Gamba	333.2	
	Amdo	310.2	
Gansu	Aksay	432.2	Household sideline income not included
	Xiaobei	392.4	
Qinghai	Madoi	501.7	
	Tianjun	400.9	
	Goldmud	366.0	
Ningxia Xinjiang	Yongning	478.6	
	Shihezi	405.8	
	Yumin	400.6	
	Miquan	313.2	

All data in this section are supplied by the relevant provinces, municipalities, and autonomous regions (rural work departments, and agricultural staff offices)

Livelihood of Rural Population Surveyed

Investigation of Peasant Household Income and Expenditures

I. Investigation of Household Income and Expenditures of Chinese Peasants Summarized

Since China has many peasants, approximately 80 percent of the national population, the party, and the government have always shown great concern for their living conditions. In 1953, a nationwide survey was conducted on the income and expenditure of peasant households and several methods, such as cluster and random sampling and assignment of investigators, were used in a 1:10,000 sampling of peasant households. According to the requirements, each province generally had to pick out 500 to 1,000 households, making a national total of 15,000 to 20,000 households. The actual number turned out to be 16,468 households in 25 provinces, municipalities, and autonomous regions. This survey provided numerical data for the party and government leadership and the departments concerned in their research on the peasants' production and livelihood.

Beginning in 1956, the localities commonly used the method of classification and selection of sample points according to proportion. Under this arrangement, the population units are classified into a certain number of categories, such as mountainous areas, plains, hilly areas, grain-producing areas, cotton-producing areas, and so forth, and then in each category, a certain number of middle-level units are picked as samples. The work made some progress.

In 1977, 3,646 households in 17 provinces, municipalities, and autonomous regions were surveyed. Basically, the survey covered one county out of each prefecture, three communes at the upper, lower, and middle levels out of each county, one middle-level production team out of each commune, and several households out of each production team. In 1978, many provinces used the sampling method to make a fresh selection or to readjust the sample points. During that year, 6,095 households were surveyed in 20 provinces, municipalities, and autonomous regions. In 1979, the State Statistical Bureau called on all provinces to classify 25 percent of the counties, chosen at equal intervals, according to their levels of income. Then each county would pick out three communes; each commune would pick out one middle-level production team; and each production team would pick out 10 households to be surveyed. During that year, 9,545 households in 23 provinces, municipalities, and autonomous regions were surveyed. In 1980, 10,282 households were surveyed in 27 provinces, municipalities, and autonomous regions; and in 1981, 15,914 households were surveyed in 28 provinces, municipalities, and autonomous regions. The survey data became increasingly representative.

In September 1981, in accordance with State Council instructions, two sampling survey teams were formed under the state statistical system for the rural and urban areas, and new sampling procedures were introduced. According to these procedures, the number of households to be sampled was increased from 15,000 to approximately 30,000, and all provinces were required to use the method of

stratified equal-interval selection in three stages. Under this arrangement, the provinces would pick the counties, the counties would pick the production teams, and the production teams would pick the commune-member households. In the counties where the number of production teams is fairly large, the method of provinces picking counties, counties picking communes, communes picking production teams and production teams picking households might be used.

According to the regulation of provinces picking counties, all provinces and autonomous regions should pick 20 percent of the counties to be surveyed, while each municipality directly under the central government should pick four to five counties. The county that has been picked should in turn pick 6 production teams, and each of these production teams should pick 10 households. In this way, about 500 agricultural economic survey counties, about 3,000 communes and production teams, and about 30,000 households would be organized into a survey network.

This method of provinces picking counties is as follows: In the counties of a province, the average income from collective distribution per person in the previous 3 years are arranged in ascending order. At the same time, the people participating in the distribution in all picked counties are totaled up separately according to the same order, and the number of picked counties is used to divide the number of people participating in distribution in the province. Class intervals of counties are thus obtained.

The unit at half of the number of class intervals is the first choice. After this, one county is picked at every other class interval for the survey.

The methods of a county picking production teams and the production teams picking households are basically the same as that of a province picking counties.

The survey units, once selected, will remain stable for continuous observation. If readjustment of the survey points is necessary for some reason, such as a change in their representative value with the passing of time, the State Statistical Bureau will have to make unified arrangements.

The investigation of peasant household economy is of a comprehensive nature involving a wide area. Since their economic activities are frequent and complex, a one-time survey can hardly be complete and accurate. However, if a system of constant registration is set up, the survey will be both complete and accurate. Therefore, it is necessary for the households under investigation to record the income and expenses of all their members fully and accurately in a "family ledger." However, since the cultural level of peasants is now commonly low, it would still be difficult to rely entirely on the commune members to keep these records. That is why concrete assistance from the auxiliary investigators during their periodical visits is necessary in keeping these records. The common practice now is for 1 auxiliary investigator to be assigned for every 10 households and these auxiliary investigators must frequently visit the households to do publicity work and to provide guidance in recordkeeping. They should also properly arrange the data on the 10 households in good time to ensure their accuracy for their on-time reports.

II. Continued Rise in Peasant Living Standards in 1982

According to the sample survey on the income and expenditures of 22,775 peasant households in 589 counties of 28 provinces, municipalities, and autonomous regions (Xizang excepted), the per capita net income in 1982 reached 270.11 yuan, an increase of 46.67 yuan, 20.9 percent, over the 223.44 yuan of 1981; and an increase of 136.54 yuan, or double the 133.57 yuan of 1978. The average net income from household sideline occupation per person was 102.8, a 21.6-percent increase over 1981 and a 1.87-fold increase over 1978. In the 20 years from 1957 to 1976, the average per capita increase in income was 2 yuan, an annual increase of 2.3 percent; and from 1978 to 1982, the average per capita increase was 34.14 yuan, an annual increase of 19.3 percent. One important cause of the increase in peasant income is the gradual popularization of the system of responsibility for production in many different forms, especially that of "fixing output quota for households" and "contracting work to households" which have greatly liberated the productive forces among peasants and created the conditions for "people to do their best in making maximum use of the land." In Chuxian Prefecture, Anhui, for example, the output-related system of responsibility for agricultural production was introduced in 1979, and the gross grain output reached 2,833,000,000 jin which was the highest in history and exceeded that of 1978 by 23.3 percent. The output continued to increase for 3 years from 1980 to 1982, and reached 4,374,000,000 jin in 1982, a 90.3-percent increase over 1978. There was also an all-round development of economic diversification. In 1982, the output of plant oil reached 3,732,400 dan, an increase of 740,400 dan, a 4-fold increase over 1978. Tea output reached 6,087 dan, a 33-percent increase; that of cocoons reached 4,589 dan, a 32.6-percent increase; and that of fruits reached 114,200 dan, a 56.4-percent increase. Along with the steady development in agriculture production, peasant income in that prefecture also continued to increase. In 1978, the income from collective distribution per person was only 73 yuan. In 1982, it increased to 252 yuan, a 2.5-fold increase. Fengyang County in the same prefecture was formerly well known as a poor county. In 1979, after the introduction of the "all-round" production responsibility system, the best harvest in history was reaped, and its label of relying on resold grain was basically removed. In 1982, its total grain output reached 715 million jin, an increase of 295 million jin, a 1.4-fold increase, over 1978, and more than 200 million jin was sold to the state.

Along with the increase in peasant income, their living standards have also been markedly raised. In 1982, average living expenses per person were 220.23 yuan, an increase of 29.42 yuan, or a 15.4-percent increase over the 190.81 yuan of 1981; and an increase of 104.17 yuan, or an 89.8-percent increase over the 116.06 yuan of 1978. In 4 years, the average per capita increase was 26.04 yuan, a progressive increase of 17.4 percent each year. The nutrition of peasants has been further increased. Based on the amount of grain, vegetables, edible oil, meat, poultry, eggs, fish, shrimp, sugar, and other major food items consumed per person each year, in 1982, the daily amount of calories from food per person was 2,505.55 kilocalories; that of protein, 67.41 gm; and that of fat, 33.31 gm. Compared with the previous year and 1978, the calories were increased by 41.31 and 237.13 kilocalories; protein, 0.59 and 3.13 gm, and fat, 0.17 and 8.77 gm, respectively.

The remarkable rise in peasant living standards had the following main features:

1. An all-round increase in expenses on material consumption and in cultural and service expenses. In 1982, the average living expenses per person was 215.3 yuan, an increase of 29.13 yuan, a 15.7-percent increase over the previous year; and their expenses on cultural and other services was 4.93 yuan, an increase of 0.29 yuan, a 6.3-percent increase.
2. Improvement in food. In 1982, the average amount of expenses per person on food was 133.2 yuan, an increase of 19.37 yuan, a 17-percent increase over the previous year. The average amount of grain (unprocessed) consumed per person was 520 jin, an increase of 8 jin over the previous year. In their food constituent, the amount of flour and rice was increased by 39 jin and that of coarse grain was reduced by 31 jin. The proportion of flour and rice in the total food consumption rose from 67.4 percent in the previous year to 73.8 percent. Each person consumed 264 jin of vegetables, an increase of 16 jin; 6.86 jin of edible oil, an increase of 0.61 jin; 18.1 jin of meat, an increase of 0.69 jin; 2.85 jin of eggs, an increase of 0.35 jin; and 5.46 jin of liquor, an increase of 0.82 jin.
3. Increased consumption in high- and medium-grade chemical fiber fabrics which were even more welcomed by the peasants after their price reduction. In 1982, the average clothing expense per person was 24.77 yuan, an increase of 1.2 yuan, a 5.1-percent increase over the previous year; and the average purchase of chemical fiber fabrics per person was 4.59 feet, an increase of 0.89 feet, a 24.1-percent increase in consumption over the previous year; and an increase of 3.35 feet, a 2.7-fold increase over 1978.
4. Increase in the purchase of durable consumer goods. In 1982, the average expenditure on consumer goods per person was 22.39 yuan, an increase of 2.88 yuan, a 14.8-percent increase over the previous year. At the year end, every 10 households owned 5.1 bicycles, an increase of 0.7 unit over the previous year; 3.3 sewing machines, an increase of 0.5 unit; 5 radios, an increase of 0.8 unit; wristwatches, 6.8, an increase of 1.3 units; and 0.17 TV sets, an increase of 0.08 unit. The purchases by peasants would have increased even more if supplies of brandname products were available in sufficient quantities.
5. Improved housing conditions, increased floorspace and better housing quality. In 1982, each person spent an average of 22.58 yuan on housing, an increase of 3.91 yuan for a 20.9-percent increase. Each household built an average of 0.29 house with a new floorspace of 4.7 m^2 . At the yearend, each household occupied an average of 4.56 houses, an increase of 0.28 unit over the previous year. In terms of area, each person at the yearend occupied 13.41 m^2 of floorspace, an increase of 0.94 m^2 of floorspace over the previous year. The quality of houses was also improved. The proportion of new houses built of brick and wooden structures and reinforced concrete structures was raised from 57.1 percent in 1981 to 62.8 percent.

6. Rise in the proportion of commodity expenses. Among these 22,755 peasant households, the expenditures of each person on commodities was 153.97 yuan, an increase of 21.07 yuan, or 15.9 percent, and 54.6 percent of total expenses. Among them, the purchase of articles for daily use amounted to 121.57 yuan, an increase of 16.5 percent over the previous year. The proportion of these expenses in total expenses rose from 56.1 percent in the previous year to 56.5 percent. With their increased purchasing power, the peasants now make new demands on food, clothing, and articles of daily use, and hope to buy consumer goods of fine quality, attractive appearance, and new designs, thus promoting the socialization of production and the development of commodity consumption.

9411/9365
CSO: 4007/183

- END -